



Town of Arlington, MA Redevelopment Board

Agenda & Meeting Notice August 5, 2024

Per Board Rules and Regulations, public comments will be accepted during the public comment periods designated on the agenda. Written comments may be provided by email to cricker@town.arlington.ma.us by Monday, August 5, 2024, at 3:00 pm. The Board requests that correspondence that includes visual information should be provided by Friday, August 2, 2024, at 12:00 pm.

The Arlington Redevelopment Board will meet Monday, August 5, 2024 at 7:30 PM in the **Arlington Community Center, Main Hall, 27 Maple Street, Arlington, MA 02476**

1. Review Meeting Minutes

7:30 pm The Board will review and vote on meeting minutes from July 15, 2024.

2. Public Hearing: Docket #3810, 149 Pleasant Street

7:35 pm Notice is herewith given that an application has been filed on July 8, 2024, by Stephen Doherty, FTO Realty Trust, 109 Blanchard Road, Lawrence, MA 01843, to open Special Permit Docket #3810 in accordance with the provisions of MGL Chapter 40A § 11, and the Town of Arlington Zoning Bylaw Sections 3.3, Special Permits, and 3.4, Environmental Design Review. The applicant proposes to demolish the existing single-family building and construct a three-family building located at 149 Pleasant Street, Arlington, MA, in the R4 Residential Town House District. The opening of the Docket is to allow the Board to review and approve the application under Section 3.4, Environmental Design Review.

- Applicant will be provided 10 minutes for an introductory presentation.
- DPCD staff will be provided 5 minutes for an overview of their Public Hearing Memorandum.
- Members of the public will be provided time to comment.
- Board members will discuss Docket and may vote.

3. Economic Development Presentation

8:15 pm The Economic Development Coordinator will make a presentation to the Board on the state of economic development in Arlington.

4. Alewife Redevelopment Discussion

8:45 pm The Board will discuss the potential redevelopment of the Alewife MBTA stop.

5. Open Forum

9:00 pm Except in unusual circumstances, any matter presented for consideration of the Board shall neither be acted upon, nor a decision made, the night of the presentation. There is a three-minute time limit to present a concern or request.

6. New Business

9:15 pm

7. Adjourn

9:30 pm (Estimated)

8. Correspondence

- B. Halperin - 8/1/2024



Town of Arlington, Massachusetts

Review Meeting Minutes

Summary:

7:30 pm The Board will review and vote on meeting minutes from July 15, 2024.

ATTACHMENTS:

Type	File Name	Description
▢ Reference Material	07152024_AMENDED_DRAFT_Minutes_Redevelopment_Board.pdf	07152024 AMENDED DRAFT Minutes Redevelopment Board

Arlington Redevelopment Board
Monday, July 15, 2024, at 7:30 PM
Select Board Chambers, Robbins Memorial Town Hall
730 Massachusetts Avenue, Arlington, MA 02476
Meeting Minutes

This meeting was recorded by ACMI.

PRESENT: Rachel Zsembery (Chair), Eugene Benson, Shaina Korman-Houston, Kin Lau, Stephen Revilak (remote)

STAFF: Claire Ricker, Director of Planning and Community Development; Sarah Suarez, Assistant Director of Planning and Community Development

The Chair called the meeting of the Board to order.

The Chair opened with **Agenda Item 1 – Review Meeting Minutes.**

June 17, 2024, minutes – The Board members had no changes to the minutes. The Chair requested a motion to approve the minutes as submitted. Mr. Lau so moved, Mr. Benson seconded, and the Board voted unanimously in favor.

July 1, 2024, minutes – The Board members had no changes to the minutes. The Chair requested a motion to approve the minutes as submitted. Mr. Lau so moved, Mr. Benson seconded, and the Board voted unanimously in favor.

The Chair moved to **Agenda Item 2 – Discussion of 1500 Massachusetts Avenue.**

Ms. Ricker explained that this project was approved with conditions by the Board on November 2, 2020. It has run into some construction issues on site. One of the primary conditions is the inclusion of an accessible unit. The Board's decision required solely commercial use on the first floor with residences above. The owner, Mr. DiNucci, is requesting that the accessible unit be allowed on the first floor.

Darren DiNucci, property owner, said that construction began after the Board approved the Special Permit and the development received a permit from the Department of Inspectional Services, and the building is essentially 80% complete. He was contacted in June 2023 by Michael Ciampa, Director of Inspectional Services, who said that there were some questions and concerns about the project. Mr. Ciampa directed him to reach out to the Massachusetts Architectural Access Board (AAB). He received an approval from the AAB for an accessible unit that takes up approximately half the first floor. That was essentially the same unit that he had initially proposed to the Board, but then he got the information that they didn't need to do that. The delays have proven to be a significant hardship. They have a solution, which Mr. Ciampa supports.

The Chair asked for clarification that they want to re-open the Special Permit and are requesting a modification that would allow them to eliminate one of the commercial units that was permitted for the first floor and replace it with a single accessible residential unit. The owner said that that is correct.

The Chair noted that the Board had significant discussion about the percentage of business use space they wanted to see in the property, and that formed a significant part of the approval process. She also noted that there are two new members since the original decision; neither Mr. Revilak nor Ms. Korman-Houston were on the Board at the time.

Mr. Benson said that he cannot make a decision about whether or not it's appropriate to re-open the Special Permit until he sees a formal submission. If they want to return to the proposal they brought to the Board initially, which the Board required them to change before approving, he thinks it is unlikely that he would be willing to re-open the permit for that, but he can't say that with any certainty without seeing an actual proposal with architectural drawings.

Mr. Lau said that he would be willing to re-open the Special Permit to discuss their proposed modifications. He noted that the changes made to the locations of mechanical room and indoor bicycle parking required the creation of a

corridor to allow access to the bicycle room, which takes up a significant amount of space on the first floor. He asked if it would be possible to change those rooms to the locations originally proposed, so the space used for the corridor could be used in the commercial space. The architect, Monte French, said that the discovery of ledge required them to build the parking lot higher than expected, requiring access to those spaces from the side of the building, not the rear. It also enabled pedestrian access to the bicycle room. Mr. Lau asked if they would be willing to look at the possibility of reallocating that space to commercial space if they were to re-open the permit. Mr. French said that he would be willing to take a look at it.

Mr. Lau asked why all the full-sized parking spaces have been reduced to compact spaces. Mr. French replied that Jenny Raitt, former Director of DPCD, approved that change in an email. Mr. DiNucci said that nothing was changed without approval. Mr. Lau said that he was not sure that Ms. Raitt had the authority to make those changes. The Chair said that they would need to see documentation of the approval of all the changes in order to assess that.

Mr. Lau said that for the original approval, he was very focused on getting a trench drain at the end of the driveway, so that water wouldn't spill onto the sidewalk and the street. Mr. DiNucci said that the trench drain will be put in, but they're waiting for information about final grades.

The Chair said that she thinks that a single, very small office unit is not enough to approve a mixed-use property. She would not be in favor of reopening the Special Permit, because she thinks that the entire first floor needs to be a business use. There are a few options, including modifying the building to add an elevator, adding a LULA lift to the rear of the property to provide access to a second-floor unit, and decreasing the overall number of units so that an accessible unit is not required. She would prefer any of those options over eliminating the second commercial space on the first floor. Choosing those other options would not require reopening the original permit; that could be reviewed and approved with the Building Inspector.

Ms. Korman-Houston said that she would be in favor of reopening the Special Permit. She also has concerns about the ground floor commercial space. She also thinks that the accessible studio unit is probably not a great living space, especially if the original commercial façade is maintained. She would like to see other options to make upper-level units accessible, such as a through-floor lift.

Mr. Revilak asked if an accessible unit would be restricted to someone with a disability, or if it could be rented to anyone. The developers replied that it could be rented to anyone.

Mr. Revilak also asked if they have considered having office space on the first and second floor. Mr. DiNucci said that they could have done that, as well as many of the other suggestions, but when they received the permit, they built the building, which is now largely complete. At this point, they can't alter it structurally to put offices and residential units in different spaces. They don't have the option to add an elevator or lift at this point because of the way the building has already been configured. Mr. French said that this was part of the process with the Mass AAB; they discussed options such as lifts and elevators with the AAB in order to preserve the first-floor commercial space, but that was denied, because an elevator would require all units to be accessible. Any other possible options came with astronomical costs.

Mr. Revilak said that according to 521 CMR, a building with four or more units and no elevator requires only ground floor units to be accessible. Given that this building as initially proposed had no elevator and no ground floor units, he does not understand what triggered the requirement for an accessible unit. Mr. French replied that the accessible unit was approved in the wrong manner, and during construction, it was pointed out that the accessible unit was in violation, so they had to go back and correct it.

Mr. Revilak said that he would be in favor of reopening the permit because he does not want to see a partially finished building sitting vacant.

Mr. Benson said that the Zoning Bylaw allows the Board to grant a special permit allowing up to 20% of the spaces in a parking lot or garage to be sized for compact cars, so he doesn't understand how this project ended up with all compact parking spaces. The Board did not approve that. If the permit were reopened, he would want to take a look at the parking and make it consistent with the zoning bylaw. Mr. DiNucci said that the retaining walls have been built, so that limits what changes can be made. Mr. Benson said that they could reduce the allowed number of spaces with an approved Transportation Demand Management Plan.

The Chair noted it would only require a vote of three members of the Board to reopen the permit, and at least three members have indicated that they would be in favor of doing so. Mr. Benson said that he would like to see complete plans of everything that has been modified from the plans that the Board approved, along with documentation about who approved those changes.

Mr. Lau asked the developer to take a look at their bicycle parking, because the plans show four spaces in front of the first floor residential unit, which is not appropriate. Mr. French said that those spaces are leftover from when the whole first floor was commercial, and that it will be changed. Mr. Lau said that he thinks that there are considerably more bicycle parking spaces overall than required.

Mr. Lau also noted that the original permit was approved before the solar requirement, so reopening it would mean revisiting that. He asked them to check with their engineer to see if the roof is solar-ready, and asked if they would be willing to put solar panels on 50% of the roof. Mr. DiNucci said that the roof has HVAC units on it, but they would be willing to add as much solar as could fit.

Mr. Benson said that he was unsure if the bicycle parking bylaw was in place when the special permit was originally approved. He asked them to double-check the bylaw and confirm that they have enough bicycle parking. Mr. DiNucci replied that he thinks the bylaw was in place, and they have included a lot of bicycle parking. He noted that they've also included an electric vehicle charging spot.

Ms. Ricker said that in order to re-open the permit, legal notices would have to be placed, so the earliest possible date for the hearing would be September 9, 2024. The developers agreed to that date. The Chair asked that they have all materials submitted to DPCD no later than August 26, 2024, so that Ms. Ricker has enough time to thoroughly review them and make sure nothing is missing.

The Chair asked for a motion to reopen the Special Permit for Docket 3633, for 1500 Mass Ave, on the date of September 9, 2024. Mr. Lau so moved, Ms. Korman-Houston seconded. The Board approved the motion by a vote of 3-2, with Mr. Benson and the Chair voting against the motion.

The Chair moved to **Agenda Item 3 – Presentation and Discussion of Fox Library Housing Feasibility Study.**

Ms. Ricker introduced Anna Litten, Director of Libraries, who shared a presentation on the feasibility study. In September 2022, she began investigating options for 175 Mass Ave, the Fox Branch Library, which is badly in need of a rebuild. She wanted to consider how they could use that property to meet other goals of the Town, particularly housing goals. Boston has used the opportunity of rebuilds of existing branch libraries to build housing above them, and she was interested in doing the same with the Fox Branch Library. She reached out to DPCD, and she and Ms. Ricker worked together on a feasibility study for the project. They secured grant funds and are working with a team from Metropolitan Area Planning Council (MAPC) on the feasibility study.

Ms. Ricker said that MAPC has committed \$15,000 in direct local technical assistance. Along with the community planning grant, the total project value is \$92,400. The project goals are to understand the feasibility of developing housing above a new Fox Branch Library, to understand municipal capacity to enable a disposition process, to engage with the public to establish community goals, and to expand affordable housing opportunities. Components of the study include site analysis, case study research, financing opportunities, pro forma feasibility analysis, community engagement, and potentially an implementation plan. In addition to the Redevelopment Board, they have spoken to the Library Board and the Town Manager, and they will also be presenting to the Select Board and the Affordable Housing Trust.

Many communities around the country have begun to implement projects like this, and the study has looked at three specific projects:

- The Brooklyn Sunset Park Library Branch, which was completed in 2023, has 20,000 square feet of library space and 49 housing units. It was a private/public partnership in which the land was sold to a developer, and ultimately the library itself was sold back to the city. The total development costs were about half what building a standalone library would have been.

- The West End Branch library in Boston is currently in development. In that case, the developer has entered into a long-term ground lease with the city, which is a more likely option for Arlington, rather than selling public property. The library is expected to be two stories, with 17,500-19,000 square feet, with 119 housing units above that.
- The Uphams Corner Branch Library in Boston is also in development. The project is expected to result in 17,000 square feet of library space, with 33 residential units. This smaller scale is closer to what Arlington is likely to be able to do.

The concept for the Fox Branch Library is about 13,600 square feet of library space and 15-25 residential rental units. The site area is about 6,800 square feet. The vision is that the library would take up the first two floors, and there would be four floors of housing above, totaling 27,200 square feet. MAPC developed various scenarios for how development would work with 20 housing units. The higher the number of affordable units, the larger the necessary contribution from local sources would be. Ms. Ricker thinks that the most reasonable option would be for about half the units to be affordable, with a significant local contribution and some state subsidies as well.

The process going forward, based on their studies of other projects, will be:

- Completion of the Feasibility Study – understand community priorities, determine development feasibility and target population, outline a clear municipal process, including crafting the RFP, and build excitement and support.
- Request for Proposals (RFP) – issue the RFP, select development team for housing component, procure design team for library component
- Permitting and Approvals – project site plan review and approval, design of library and housing, secure development financing for housing.
- Construction – possible temporary relocation of the library, demolition of existing building, core and shell building construction, and library fit-out and construction.

All the Board members expressed support of the project and its goals, even as they expressed concerns about the feasibility. The Board members encouraged the team working on the project to get creative in order to make it work.

Mr. Revilak asked if the property would have to be rezoned. It is currently zoned B3, Central Business District, which only allows five stories, but this project plans for six stories. Ms. Ricker replied that they would consider rezoning the property, because it can't be built any smaller and be financially viable.

Mr. Benson said that he is also unsure how this will fit with existing zoning. It's currently a nonconforming structure, and the Board does not have the authority to approve a new structure that is even more nonconforming. He is also concerned about the parking required for the residential units. Even if the requirements are reduced, it is difficult to see where any amount of parking for the project would go. He thinks that a zoning analysis should be done as part of the feasibility study to determine the best way to proceed.

Ms. Korman-Houston said that she thinks the size of the site makes the proposal very difficult. As the project develops, she would like to learn more about how it will be possible to build the proposed number of units on such a small site.

Mr. Lau also expressed concerns about the zoning and parking. He thinks it will be difficult to find a developer to get interested in the proposal. He suggested that they consider micro-units, which would maximize the number of units that would fit. They need to carefully consider who the target market is for the market-rate units, given that there will be no outdoor space and little to no parking. He noted that the other examples they looked at have considerably more space and are in areas that generally have much higher rents.

The Chair noted that the Board is planning to look at rezoning the East Arlington Business District after rezoning the Arlington Heights Business District. Those changes could be an opportunity to look at rezoning the Fox Library property. The library is at the heart of the East Arlington community. She was glad to see that a significant amount of community engagement is planned, as many residents will want to have their voices heard about the project.

Mr. Lau asked if they have looked into CPA funding. Ms. Ricker said that CPA funding is one of the local funding sources they will be considering at that phase of the project.

The Chair said that many communities around the country have renovated their libraries to be destinations for their communities, using bold architecture and considerable attention to the unique needs of the communities being served by them. She thinks that Arlington deserves unique architecture for both the new library and the housing above it.

Ms. Litten said that the needs of the library drive the rest of the project. She wants the rebuilt Fox Branch Library to be two floors of beautiful, light-filled, open space that is inviting to the community and is a desirable place to be.

The Chair moved to **Agenda Item 4 – Memo regarding allowed changes to Special Permits.**

Ms. Ricker said that in response to its discussion with James Doherty about the Lexington Hotel development, the Board asked her to work with Town Counsel Michael Cunningham to develop a memo about how many and what sorts of changes a developer could make to a project without a new Special Permit. She provided the Board with a memorandum she wrote based on her conversation with Town Counsel. The answer is that any changes that could be administratively approved by the Director of DPCD or the Director of ISD could be done via permit modification. But changes to massing or siting, a change of use, or other substantial change, would require a new permit.

The Chair noted that the Board committed to having a memo to send to Mr. Doherty by the end of July, clarifying what kinds of changes could be made to the original permit.

Mr. Benson noted that the memo does not include citations to cases or references to the bylaw, so there is nothing to support the interpretation. Ms. Ricker said that her conversation with Mr. Cunningham was more general and did not include case law. The memo she provided is a summary of her conversation with Mr. Cunningham, not a legal opinion. Mr. Benson thinks that the Board has more flexibility than is indicated by the memo, because they can decide what constitutes a substantial change, unless there is case law that sets specific parameters.

The Chair said that Mr. Doherty suggested several widely varied potential options for the site, and the memo provides guidelines about which of those options would require a new special permit. But Mr. Doherty needs to come back to the Board with specific scenarios, which the Board can then review in order to determine whether they are willing to reopen the special permit or require a new one. She asked that any members of the Board with comments on the memo send them to Ms. Ricker, who will incorporate them and send the memo to Mr. Doherty by the end of the week.

Mr. Revilak said that he understands there to be three possibilities:

- changes that can be approved administratively,
- changes that would require reopening and modifying the special permit. This would require a new hearing, but not necessarily the preparation of a whole new application, and
- changes that would require a new special permit process.

He noted that the memo does not really address the second option, and he would like more clarity about what sorts of changes could be addressed with a modification of the original permit a not require a new permit. The Chair offered some examples of such changes: windows, façade changes, small changes of floor size that don't encroach on approved setbacks or step-backs, allocation of floor space between the existing mix of uses.

The Chair moved to **Agenda Item 5 – Open Forum.**

The Chair opened the floor to public comment.

- Asia Kepka, 17 Silk Street – The Lexington Hotel project has not progressed in some time. One large business has just left Arlington, and she urged the Board not to give up on the idea of a hotel. She thinks it might be a good idea to propose the property to another developer, because Arlington desperately needs business revenue. She is also concerned about the large number of trees removed from 1500 Mass Ave and other developments. She hopes that when the Board considers this type of large development, they will keep the tree canopy in mind.

Seeing no one else who wished to speak, the Chair closed public comment.

The Chair moved to **Agenda Item 6 – New Business.**

Mr. Lau asked about the status of 882 Mass Ave. Ms. Ricker said that the developer is still in the process of painting. She will follow up with him about that process, the required lighting plan, and the removal of the vents. Mr. Lau expressed concern about the fact that it seems nothing has been done, and the developer has not attempted to communicate with the Board. The responsibility to maintain contact and communication should be on the developer, not on Ms. Ricker, because the developer is in violation of the terms of the special permit.

Mr. Lau said that the Board had talked about finding PUDs or other projects that they might be interested in. One such opportunity is the lot near Spy Pond, next to the bike path and across from where the crew teams keep their shells. At one time, the Board discussed the possibility of moving the parking lot next to Spy Pond Park to the other side of the bike path to create more space for the park, and possibly putting housing on the currently empty lot. The Chair noted that the Board is currently working on several different projects, so realistically, if they are interested in pursuing a redevelopment project, they need to first agree on a project or a priority list of projects, and then speak to others in the Town before committing to moving forward with a particular project.

Mr. Lau also asked about the MBTA bus turnaround. Ms. Ricker has spoken with the MBTA, and they have said that dealing with that property is not a priority for them. The Town has received permission for a mural on the building, which is in process, but it is challenging to get anyone at the MBTA to engage with the issue.

The Chair said that perhaps the Board should discuss the bus turnaround, the parcel next to the bike path, and other potential redevelopment projects at their next retreat, where they will have the opportunity to decide which projects they want to prioritize.

Mr. Benson noted that the Board made a commitment to take a rezoning plan for the Arlington Heights Business District to Town Meeting in the spring of 2025, and to look at rezoning the East Arlington Business District next. Those two projects and the update of the Master Plan should be the Board's top three priorities.

The Chair said that a petition has been circulated regarding retaining the Scotch pine tree at 821 Mass Ave. Her Town email was entered without her knowledge or consent and added to the list of signatories without her knowledge or consent, which has caused her to question the veracity of the petition as a whole. She wants the other Board members to be aware of it, and she would like the organizers of the petition to be aware that this is happening.

The Chair asked for a motion to adjourn. Mr. Lau so moved, and Mr. Benson seconded. The Board voted and approved unanimously.

Meeting **Adjourned at 9:08 pm.**



Town of Arlington, Massachusetts

Public Hearing: Docket #3810, 149 Pleasant Street

Summary:

7:35 pm

Notice is herewith given that an application has been filed on July 8, 2024, by Stephen Doherty, FTO Realty Trust, 109 Blanchard Road, Lawrence, MA 01843, to open Special Permit Docket #3810 in accordance with the provisions of MGL Chapter 40A § 11, and the Town of Arlington Zoning Bylaw Sections 3.3, Special Permits, and 3.4, Environmental Design Review. The applicant proposes to demolish the existing single-family building and construct a three-family building located at 149 Pleasant Street, Arlington, MA, in the R4 Residential Town House District. The opening of the Docket is to allow the Board to review and approve the application under Section 3.4, Environmental Design Review.

- Applicant will be provided 10 minutes for an introductory presentation.
- DPCD staff will be provided 5 minutes for an overview of their Public Hearing Memorandum.
- Members of the public will be provided time to comment.
- Board members will discuss Docket and may vote.

ATTACHMENTS:

Type	File Name	Description
▢ Reference Material	EDR_Memo_Docket_3810_149_Pleasant_08012024.pdf	EDR Memo Docket 3810 149 Pleasant 08-01-2024
▢ Reference Material	149_Pleasant_St_EDR_Application_07-11-2024.pdf	149 Pleasant St EDR Application 07-11-2024
▢ Reference Material	149_Pleasant_St_Drawings_06-20-2024_-_REDUCED_FILE_SIZE.pdf	149 Pleasant St Drawings 06-20-2024
▢ Reference Material	149_Pleasant_St_Products.pdf	149 Pleasant St Products
▢ Reference Material	149_Pleasant_St_Stormwater_Report_06-24-2024.pdf	149 Pleasant St Stormwater Report 06-24-2024



Town of Arlington, Massachusetts
Department of Planning & Community Development
730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Claire V. Ricker, Secretary Ex-Officio

Subject: Environmental Design Review, 149 Pleasant Street, Arlington, MA
Docket #3810

Date: August 1, 2024

I. Docket Summary

This is an application filed on July 8, 2024, by Stephen Doherty, FTO Realty Trust, 109 Blanchard Road, Lawrence, MA 01843 to demolish the existing single-family house on a corner lot located at 149 Pleasant Street, Arlington, MA, and build a new three-family residential building within the R4 Townhouse District. The opening of Special Permit Docket #3810 will allow the Board to review and approve the project under §3.4, Environmental Design Review.

The Applicant proposes to construct a new three-family residential building on the site of an existing single-family house in the R4 Townhouse District, which allows three-family residential use via special permit. In addition to the demolition and new construction, the project proposes to relocate the existing driveway and curb cut on Pleasant St and add a second driveway and curb cut on Gray Street, to provide a total of six vehicle parking spaces. The application is before the Redevelopment Board due to the project's location on Pleasant Street.

The applicant is seeking relief from the following requirements of the Zoning Bylaw:

- §5.4.3 Use Regulations for Residential Districts – the applicant requests a special permit to construct a three-family residential building in the R4 district.

- §6.1.10.A Location of Parking Spaces – the applicant is proposing two separate driveways which is allowable should the Board make a finding that the second driveway may be added.
- §5.3.16 Yards or Setbacks for Lots Adjoining a Street or Public Open Space – the applicant is requesting that a finding be made to allow parking within the front yard setback from Gray Street for both the upper and lower driveways due to site conditions.
- §2 Definitions, Open Space: Useable – the applicant is requesting that a finding be made to waive useable open space requirements given the 16% grade of the project site.

Materials submitted for consideration of this application:

- Application for EDR Special Permit and Impact Statement, dated July 8, 2024;
- LEED Checklist, dated July 8, 2024;
- Stormwater Report, dated June 24, 2024;
- Arlington Historic Districts Commission Certificate of Appropriateness, dated March 21, 2024;
- Neighborhood Plan, dated June 20, 2024;
- Existing and Proposed Site Plans, dated June 20, 2024;
- Floor Plans and Elevations, dated June 20, 2024;
- Existing Conditions Photos, dated June 20, 2024;
- Streetscape study, undated; and
- Product and materials list, undated.

II. Application of Special Permit Criteria (Arlington Zoning Bylaw, Section 3.3)

1. Section 3.3.3.A.

The use requested is listed as a Special Permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.

The site is located in the R4 Townhouse District at 149 Pleasant Street. A single-family house was originally constructed on the site around 1947. The applicant is proposing to raze the single-family house and build a three-family residence which is an allowable use in the R4 district via special permit per §5.4.3 of the Zoning Bylaw.

There is a steep downward slope from west to east on the site. A proposed second driveway is required to meet the special permit criteria specified in §6.1.10.A. The applicant is also requesting relief via §5.3.16 from requirements that prohibit parking in the required front yard setback.

The Board can find that this condition is met.

2. **Section 3.3.3.B.**

The requested use is essential or desirable to the public convenience or welfare.

The neighborhood is zoned R4, which generally allows one- and two-family dwellings by right, and three-family dwellings or more via special permit. The project will construct 3 units of housing, including one accessible unit, which will contribute to the availability and diversity of housing options in the Town. The Board can find that this condition is met.

3. **Section 3.3.3.C.**

The requested use will not create undue traffic congestion or unduly impair pedestrian safety.

The proposed three-family residential use is consistent with the pre-existing single-family residential use but with increased density. The addition of two units and thus four parking spaces will increase entry and exit movements to and from the site but will likely not create notable traffic congestion or pedestrian safety impacts in the area. The Board can find that this condition is met.

4. **Section 3.3.3.D.**

The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.

The project site is in a residential area on a major street with underground 8" water and 10" sewer distribution lines. The proposed three-unit residential use will likely not overload any public utilities. The Board can find that this condition is met.

5. **Section 3.3.3.E.**

Any special regulations for the use as may be provided in the Bylaw are fulfilled.

No special use regulations are applicable to the proposal. The Board can find this condition is met.

6. **Section 3.3.3.F.**

The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health or welfare.

The neighborhood is zoned R4, which generally allows three-family dwellings or more via special permit. The proposed three-family residential building does not impair the integrity or character of the neighborhood as other styles and types of multi-family housing currently exist in the immediate area including across the street from the project site. The Board can find that this condition is met.

7. Section 3.3.3.G.

The requested use will not, by its addition to a neighborhood, cause an excess of the use that could be detrimental to the character of said neighborhood.

The proposed residential use is in keeping with the residential neighborhood and will not cause an excess of use. The Board can find that this condition is met.

III. Environmental Design Review Standards (Arlington Zoning Bylaw, Section 3.4)

1. EDR-1 Preservation of Landscape

The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

There is a significant 16% slope to the overall site which will be retained as no major site grading is proposed. Two parking areas will be created via retaining walls and soil addition or removal as is appropriate without substantial change to the site slope. The applicant should be prepared to discuss the driveway slope and able to confirm that it does not exceed a 15% downward slope, which would require additional relief per §6.1.10.A.

The applicant proposes removing three of five mature pine trees on the site. The relocation of the curb cut on Pleasant Street will also require removal of an immature but established street tree. The Board may consider requesting a more detailed landscape plan that shows all existing landscaping to be removed and includes a list of new plant materials and locations to be planted. Staff notes that §6.1.10.A requires a vegetated buffer for side yards used for parking when abutting a residential lot.

2. EDR-2 Relation of the Building to the Environment

Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of the existing buildings in the vicinity that have functional or visible relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on the abutting property in an R0, R1 or R2 district or on public open space.

The property is located in the Pleasant Street Historic District. The pre-existing 1947 house is not of the character or scale of other residential property in the neighborhood and is not considered a contributing structure to the Historic District. The proposed Italian Renaissance Revival design and overall massing of the three-family residence is more in line with the existing architectural vernacular in the District and received a Certificate of Appropriateness with conditions from the Arlington Historic Districts Commission on March 21, 2024. The Board can find this condition is met.

3. EDR-3 Open Space

All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing by the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility and facilitate maintenance.

By definition, there is currently no conforming, useable open space on the site given the 16% grade. The applicant does not propose new useable open space. The Board can find that this condition is met.

4. EDR-4 Circulation

With respect to vehicular and pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 6.1.12 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

Six parking spaces (two tandem spaces per unit) are proposed. Four of the proposed parking spaces are located at the rear of the site on a proposed second driveway with access to Gray Street. Two of the spaces are located on a reconfigured primary driveway with access to Pleasant Street. The Pleasant Street driveway is designed with a turn-around to prevent cars from needing to back onto Pleasant Street, which is highly travelled. Each of the spaces will be assigned to a dwelling unit to ensure orderly vehicular circulation.

The applicant proposes to move the existing curb cut on Pleasant Street closer to the intersection of Pleasant and Gray Street and restore the concrete sidewalk to Town of Arlington specifications. In consultation with the Building Commissioner, it was determined that since parking is not allowed within twenty feet of an unsignalized intersection, generally a driveway should be at least 20 feet from the intersection as well. The applicant should be prepared to give the measurements of each proposed driveway to the curb line of the intersecting street.

The Applicant has not proposed exterior bicycle parking spaces, however per Section 6.1.12 there is no minimum number of long or short term bicycle parking spaces required for townhouse structures.

The Board can find that this condition is met.

5. EDR-5 Surface Water Drainage

Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and stormwater treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Stormwater should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected in intervals so that it will not obstruct the flow of vehicular or pedestrian traffic and will not create puddles in the paved areas.

In accordance with Section 3.3.4., the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all stormwater facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do.

The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for any future maintenance needs.

The proposal includes a stormwater report and site drainage plan. The Gray Street driveway is designed to drain into an infiltration trench that diverts stormwater to a dry well. Likewise, the roof drains and Pleasant Street driveway will drain to a second drywell. The addition of landscaped areas will also assist with stormwater drainage and retention. This should improve surface water drainage over existing conditions. The Board can find that this condition is met.

6. EDR-6 Utilities Service

Electric, telephone, cable TV, and other such lines of equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

Currently electrical, telephone and cable services are delivered to the project site above ground as is typical for Pleasant Street. The applicant has requested that those existing services remain overhead. The proposal includes new sanitary sewer and water hook-ups underground and a new manhole for sewer service.

7. EDR-7 Advertising Features

The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties.

This is a residential project. There will be no signage or advertising features on the property. The Board can find that this condition is met.

8. EDR-8 Special Features

Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

This is a residential project. There are no special features proposed. The Board can find that this condition is met.

9. EDR-9 Safety

With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

The interior and exterior of the building have been designed to facilitate building evacuation including two forms of egress per unit. The proposed property will provide access to the building for fire, police and other emergency personnel and equipment from both Gray and Pleasant Streets. The Board can find that this condition is met.

10. EDR-10 Heritage

With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures or architectural elements shall be minimized insofar as practical whether these exist on the site or on adjacent properties.

The property is located in the Pleasant Street Historic District. The applicant received a Certificate of Appropriateness with conditions for the proposed project from the Arlington Historic Districts Commission on March 21, 2024. The Board can find that this condition is met.

11. EDR-11 Microclimate

With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard surface, ground coverage or the installation of machinery which emits heat, vapor or fumes shall endeavor to minimize insofar as practicable, any adverse impacts on light, air and water resources or on noise and temperature levels of the immediate environment.

There are no proposed changes that would affect the microclimate. The Board can find that this condition is met.

12. EDR-12 Sustainable Building and Site Design

Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.

A LEED checklist was provided although LEED certification will not be pursued for the project. The Board can find this condition is met.

IV. Conditions

A. General

1. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.
2. The Board maintains continuing jurisdiction over this permit and may, after a duly advertised public hearing, attach other conditions or modify these conditions as it deems appropriate in order to protect the public interest and welfare.
3. Snow removal from all parts of the site, as well as from any abutting public sidewalks, shall be the responsibility of the owner and shall be accomplished in accordance with Town Bylaws.
4. Trash shall be picked up only on Monday through Friday between the hours of 7:00 am and 6:00 pm. All exterior trash and storage areas on the property, if any, shall be properly screened and maintained in accordance with Article 30 of Town Bylaws.

2024 JUL -8 P 4: 14

REQUIRED SUBMITTALS CHECKLIST

One electronic copy of your application is required; print materials may be requested. Review the ARB's Rules and Regulations, which can be found at www.arlingtonma.gov/arb, for the full list of required submittals.

☒ **Application Cover Sheet (project and property information, applicant information)**

☒ **Dimensional and Parking Information Form (see attached)**

☒ **Impact statement**

Statement should respond to Environmental Design Review (Section 3.4) and Special Permit (Section 3.3) criteria on pages 6-8 of this packet; include:

- LEED checklist and sustainable building narrative as described in criteria 12.
- Summary of neighborhood outreach, if held or planned.

☒ **Drawing and photographs of existing conditions**

- Identify boundaries of the development parcel and illustrate the existing conditions on that parcel, adjacent streets, and lots abutting or directly facing the development parcel across streets.
- Photographs showing conditions on the development parcel at the time of application and showing structures on abutting lots.

☒ **Site plan of proposal. Must include:**

- Zoning boundaries, if any, and parcel boundaries;
- Setbacks from property lines;
- Site access/egress points;
- Circulation routes for pedestrians, bicyclists, passenger vehicles, and service/delivery vehicles;
- New buildings and existing buildings to remain on the development parcel, clearly showing points of entry/exit;
- Other major site features within the parcel or along its perimeter, including but not limited to trees, fences, retaining walls, landscaped screens, utility boxes, and light fixtures;
- Spot grades or site topography and finish floor level;
- Open space provided on the site;
- Any existing or proposed easements or rights of way.

☒ **Drawings of proposed structure**

- Schematic drawings of each interior floor of each proposed building, including basements.
- Schematic drawings of the roof surface(s), identifying roof materials, mechanical equipment, screening devices, green roofs, solar arrays, usable outdoor terraces, and parapets.
- Elevations of each exterior façade of each building, identifying floor levels, materials, colors, and appurtenances such as mechanical vents and light fixtures.
- Drawings from one or more prominent public vantage point illustrating how the proposed project will appear within the context of its surroundings.
- Graphic information showing façade materials and color samples.
- Include lighting plan and fixtures if not provided on site or landscaping plan.

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TRINOLIA'S OFFICE
ARLINGTON MA 02178

NA Vehicle, Bicycle, and Service Vehicle Plans

- Parking and loading plans, including all vehicle and bicycle parking facilities located on the parcel or within a structure, showing dimensions of spaces, driveways, access aisles, and access/egress points. Include line-of-sight and turning radius along with length and type of delivery truck.
- If you are requesting a reduction in the amount of required parking, include a Transportation Demand Management Plan per Section 6.1.5.
- Plans of all bicycle parking facilities located on the lot and within any structure, including dimensions of spaces and access routes and types of bicycle racks.

NA Sustainable Building and Site Design Elements

- A solar energy systems assessment per Section 6.4, which must include:
 - An analysis for solar energy system(s) for the site detailing layout and annual production;
 - The maximum feasible solar zone area of all structures; and,
 - Drawings showing the solar energy system you propose, with a narrative describing the system, the reasons the system was chosen, and how the system meets the requirements of Section 6.4; or
 - A detailed explanation of why the project meets an exemption of Section 6.4.2.
- LEED checklist and narrative per EDR criterion 13.

X Proposed landscaping (*may be incorporated into site plan*)

Schematic drawing(s) illustrating and clearly labels all landscape features, including hardscape materials, permeable areas, plant species, and light fixtures.

NA Plans for sign permits, if signage is an element of development proposal

X Stormwater management plan

(for stormwater management during construction for projects with new construction)

NA SketchUp Compatible Model, if required

X Application fee

(See [Rule 12 of the ARB Rules and Regulations](#) for how to calculate the fee)

FOR OFFICE USE ONLY

Docket #: 3810

_____ Special Permit Granted

Date: _____

_____ Received evidence of filing with Registry of Deeds

Date: _____

_____ Notified Building Inspector of Special Permit filing

Date: _____

COVER SHEET

Application for Special Permit in Accordance with Environmental Design Review

PROPERTY AND PROJECT INFORMATION

- Property Address 149 PLEASANT ST.
Assessors Block Plan, Block, Lot No. 131.0-0002-0001.A. Zoning District R4
- Deed recorded in the Registry of deeds, Book 81610, Page 464
or- registered in Land Registration Office, Cert. No. , in Book , Page .
- Present Use of Property (include # of dwelling units, if any)
ONE SINGLE FAMILY HOUSE
- Proposed Use of Property (include # of dwelling units, if any)
ONE THREE-FAMILY HOUSE

APPLICANT INFORMATION

- Applicant:** Identify the person or organization requesting the Special Permit:
Name of Applicant(s) STEPHEN DOHERTY
Organization FTO REALTY TRUST
Address 109 BLANCHARD RD. LAWRENCE, MA 01843
Street City, State, Zip
Phone 508-725-4419 Email sdoherly@diamondironworks.com
- Applicant Interest:** the applicant must have a legal interest in the subject property:
☒ Property owner ☐ Purchaser by land contract
☐ Purchaser by option or purchase agreement ☐ Lessee/tenant
- Property Owner** ☒ Check here if applicant is also property owner
Identify the person or organization that owns the subject property:
Name STEPHEN DOHERTY Title TRUSTEE
Organization FTO REALTY TRUST Phone 508-725-4419
Address 109 BLANCHARD RD. LAWRENCE, MA 01843
Street City, State, Zip
Phone 508-725-4419 Email sdoherly@diamondironworks.com

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TOWN CLERK'S OFFICE
ARLINGTON, MA 02178

ARLINGTON REDEVELOPMENT BOARD

Application for Special Permit Under Environmental Design Review

4. **Representative:** Identify any person representing the property owner or applicant in this matter:

Name MARTHA PENZENIK Title PRINCIPAL
 Organization MARTHA PENZENIK ARCHITECTS Phone 781-248-5791
 Address 52 MELROSE ST., ARLINGTON, MA 02474
 Street City, State, Zip
 Phone 781-248-5791 Email MARTHA@PENZENIK.COM

5. Permit applied for in accordance with the following Zoning Bylaw section(s)

section(s)	title(s)
3.3.3.A	A. The use requested is listed as a special permit use in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.

6. List any waivers being requested and the Zoning Bylaw section(s) which refer to the minimum or maximum

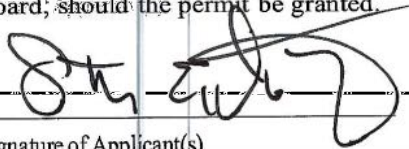
3.4.4	F. Utility Service. Electric, telephone, cable TV and other such lines and equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.
5.4.3	Use Regulations for Residential Districts
6.1.10	Location of Parking Spaces
5.3.16	Yards or Setbacks for Lots Adjoining a Street or Public Space
2	Definitions, R-13, Open Space: Usable

7. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.

(In the statement below, check the options that apply)

The applicant states that FTO REALTY, LLC is the owner ☒ or occupant ☐ or purchaser under agreement ☐ of the property in Arlington located at 149 PLEASANT STREET which is the subject of this application; and that unfavorable action ☐ or no unfavorable action ☐ has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

Sign Board, should the permit be granted.


 Signature of Applicant(s)

109 Blanchard Rd. Lawrence, MA 01843 508-726-4419
 Address Phone

ARLINGTON REDEVELOPMENT BOARD

Application for Special Permit Under Environmental Design Review

DIMENSIONAL AND PARKING INFORMATION

Property Location: <u>149 Pleasant St.</u>	Zoning District: <u>R4</u>
Applicant: <u>FTO Realty Trust</u>	Address: <u>109 Blanchard Rd. Lawrence, MA 01843</u>
Present Use/Occupancy: No. of Dwelling Units: <u>One Single Family Dwelling</u>	Uses and their gross square feet: <u>3338 GSF.</u>
Proposed Use/Occupancy: No. of Dwelling Units: <u>One Three-Family Dwelling</u>	Uses and their gross square feet: <u>6235 GSF.</u>

	Present Conditions	Proposed Conditions	Min. or Max. Req'd by Zoning for Proposed Use	
Lot Size	9801 SQ. FT.	9801 SQ. FT.	min.	7500 SQ. FT.
Frontage	89.27 FT.	89.27 FT.	min.	75 FT.
Floor Area Ratio ¹	.34	.63	max.	0
Lot Coverage (%), where applicable	17%	19%	max.	35%
Lot Area per Dwelling Unit (sf)	8125 S.F.	2648 S.F.	min.	0
Front Yard Depth (feet)	26.9 FT	25.2 FT	min.	25 FT
Side Yard Width (feet)	right side	10.2 FT	min.	10 FT
	left side	28.8 FT	min.	25 FT
Rear Yard Depth (feet)	20.1 FT	20.2 FT	min.	20 FT
Height	stories	1	stories ²	3
	feet	15'-0"	Feet	35'
Open Space (% of G.F.A.) ³	232%	99%	min.	30%
	Landscaped (sf)	7847 S.F.	(sf)	619 S.F.
	Usable (sf)	0 S.F.	(sf)	625 S.F. min.
Parking Spaces (#) ⁴	1	6	min.	3
Parking Area Setbacks (feet) (where applicable)	26.2	0	min.	25
Loading Spaces (#)	NA	NA	min.	NA
Bicycle Parking ⁵	short term	NA	min.	NA
	long term	NA	min.	NA

¹ FAR is based on Gross Floor Area. See Section 5.3.22 for how to calculate Gross Floor Area. On a separate page, provide the calculations you used to determine FAR, including the calculations for Gross Floor Area.

² Where two heights are noted in the dimensional tables, refer to Section 5.3.19, Reduced Height Buffer Area to determine the applicable height or the conditions under which the Board may provide relief.

³ Per Section 5.3.22(C), district dimensional requirements are calculated based on GFA. On a separate page, show how you determined the open space area amounts.

⁴ See Section 6.1, Off-Street Parking. If requesting a parking reduction, refer to Section 6.1.5.

⁵ See Section 6.1.12, Bicycle Parking, or refer to the [Bicycle Parking Guidelines](#).

IMPACT STATEMENT REQUIREMENTS

Projects subject to Environmental Design Review must address and meet the following Special Permit Criteria (see Section 3.3.3 of the Zoning Bylaw) and Environmental Design Review Criteria (see Section 3.4) of the Zoning Bylaw. Please submit an impact statement that describes your proposal, and addresses each of the following criteria.

SPECIAL PERMIT CRITERIA

1. The use requested is listed as a special permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.
2. The requested use is essential or desirable to the public convenience or welfare.
3. The requested use will not create undue traffic congestion or unduly impair pedestrian safety.
4. The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety or the general welfare.
5. Any special regulations for the use as may be provided in this Bylaw are fulfilled.
6. The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare.
7. The requested use will not, by its addition to a neighborhood, cause an excess of the particular use that could be detrimental to the character of said neighborhood.

ENVIRONMENTAL DESIGN REVIEW CRITERIA

1. **Preservation of Landscape.** The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.
2. **Relation of Buildings to Environment.** Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of existing buildings in the vicinity that have functional or visual relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing to reduce the effect of shadows on abutting property in an R0, R1 or R2 district or on public open space.
3. **Open Space.** All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility, and facilitate maintenance.
4. **Circulation.** With respect to vehicular, pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 8.13 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

5. **Surface Water Drainage.** Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and storm water treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Storm water should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected at intervals so that it will not obstruct the flow of vehicular or pedestrian traffic, and will not create puddles in the paved areas.
6. In accordance with Section 3.3.4, the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all **storm water facilities** such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for the future maintenance needs.
7. **Utility Service.** Electric, telephone, cable TV and other such lines and equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.
8. **Advertising Features.** The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties. Advertising features are subject to the provisions of Section 6.2 of the Zoning Bylaw.
9. **Special Features.** Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.
10. **Safety.** With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police, and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed as to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.
11. **Heritage.** With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures, or architectural elements shall be minimized insofar as practicable, whether these exist on the site or on adjacent properties.
12. **Microclimate.** With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard-surface ground coverage, or the installation of machinery which emits heat, vapor, or fumes, shall endeavor to minimize, insofar as practicable, any adverse impact on light, air, and water resources, or on noise and temperature levels of the immediate environment.
13. **Sustainable Building and Site Design.** Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project. (LEED checklists can be found at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=220b>)

NARRATIVE

Proposed Residences at 149 Pleasant Street Arlington MA

The land parcel, at 149 Pleasant Street, created in 1898, was originally a part of the George H. Gray Estate. It was never built upon until the existing single family ranch house was constructed in 1947. As this house is not of the character or the scale of the other houses in the Pleasant Street Historic District, it is not considered to be a contributing asset, whereas, the proposed house, in the Italian Renaissance Revival style, as presented herein, was approved by the AHDC and deemed to be an asset to both the neighborhood and the town.

Although the zoning for this property is R4, we are proposing a three-family dwelling. There will be two side-by-side units on the upper floors and one unit on the lower floor. As the site slopes from west to east by approximately 17'-0", we have been able to create an entrance from grade directly into the lower level. This dwelling unit will be compliant with the Massachusetts AAB Rules and Regulations.

We are proposing that there be two driveways, one leading to a lower parking area accessible from Pleasant St. belonging to the lower unit and an upper parking area, for the upper units, accessible by a driveway from Gray St. In separating the parking areas and providing a turnaround in the lower driveway, merging into the traffic on Pleasant Street will be greatly eased. The presence of two driveways but on different streets will not be detrimental to the neighborhood but instead will be of benefit to it.

The following conditions necessitate the request for a Special Permit:

1. As per Section 5.4.3 Use Regulations for Residential Districts, Class of Use: R4, Three-family Dwelling: SP
2. As per Section 6.1.10 Location of Parking Spaces, A,not more than one driveway shall be permitted unless there is a finding, by the Special Permit Granting Authority for the development, that a second driveway...may be added...
3. As per Section 5.3.16 Yards or Setbacks for Lots Adjoining a Street or Public Open Space, we request that a Special Permit be granted for an adjustment allowing parking within a front yard setback on Gray Street for both upper and lower parking areas due to difficult site conditions.
4. As per Section 2 Definitions, R-13, Open Space: Usable, Open space shall be deemed usable only if at least 75% of the area has a grade of less than 8% and no horizontal dimension is less than 25 feet. The average property grade of 149 Pleasant St. is 16% with no 25 foot dimension being less than 8%.

The existing house has 3,338 gross square feet (FAR 34) and the proposed house will be 6,235 square feet (FAR 63). The lot is 9,801 square feet (7,500 min. required) and the Pleasant Street frontage is 89.27 feet (75' min. required.). The current lot coverage is 17%, the proposed is 19% and the maximum allowed is 35%.

The existing front yard depth is 26.9', the proposed is 25.2' and the minimum required is 25'. The left side yard depth is 28.8, the proposed is 26.7' and the minimum required is 25' as it is a corner lot. The rear yard depth is 20.1', the proposed is 20.2' and the required is 20'. The existing height is approximately 15' and the proposed height, as measured from the average grade taken across the property, will be 33.25' and the maximum allowed is 35'.

The proposed landscaped open space is 6,191 square feet which is 99% GFA. The proposed usable open space is 0 as the grade of the property does not allow for less than 8% grade.

There will be grade changes and soil redistribution on the property, however a stand of pine trees on the northeast side of the property will be preserved as best as possible. Three will need to be removed as they currently overhang the roof of the existing house. Native plantings will be incorporated into the new landscape.

The new house and the landscape features, including the incorporation of stone retaining walls, so common in this neighborhood, will be harmonious with the adjacent properties.

Best use practices to prevent and mitigate stormwater runoff and erosion will be in place the duration of the construction. Permanent stormwater management provisions include drywells, stone infiltration trenches, permeable grout, plantings and native vegetation.

149 PLEASANT STREET ARLINGTON, MA IMPACT STATEMENT

3.3.3 Special Permit Criteria

1. Use Requested:

As per Section 5.4.3 Use Regulations for Residential Districts, Class of Use: R4, Three Family Dwelling: SP

2. Desirability of Requested Use:

The requested use is for 3 units instead of the 4 unit zoning designation, thereby lessening density and congestion in the neighborhood.

3. Traffic Congestion and Pedestrian Safety:

The lower driveway has a turnaround so that no car will back out onto Pleasant St., as is currently the case, but rather drive straight out and merge with the traffic. This will be safer for pedestrians, as they will be more visible to the driver, and will ease vehicular congestion.

4. Municipal Systems:

The requested use will not overload any public water, drainage, sewer system or other municipal system.

5. Special Regulations:

There are none for this use.

6. District Integrity:

The character of the building is that of a single family house, as is typical for the neighborhood. Zoning is for a block of 4 townhouses, which is undesirable in the Pleasant Street Historic District.

7. Excess of Use Causation:

This cannot be determined but it is unlikely to occur.

3.4.4 Environmental Design Review Standards

1. Preservation of Landscape:

The two significant features of the landscape are the stand of pine trees along the northern border and the dramatic slope of the land. The upper parking area will be created by retaining walls and infill soil. The lower parking area and ground floor entry will again be created by retaining walls and excavation. The general feel of the land will be experienced from Gray Street where the property follows the grade of the roadway. Three of the pines will be removed as they overhang the existing roof. Every effort will be made to preserve the remaining trees. The new plantings will native species.

2. Relationship of the Building to its Environment:

The new house and the site improvements will be well suited to the neighborhood in both materials (stone walls and stucco) and massing that matches the scale of the other large houses that line Pleasant Street.

3. Open Space:

The new house is to be located on the approximate footprint of the existing house so the feeling of open space will remain similar.

4. Circulation:

There is no public pedestrian circulation on the property at this time nor will there be in the future. Vehicular circulation will be controlled by having two driveways. One from Gray St. serving the upper parking area and one from Pleasant St. serving the lower parking area. The lower driveway has a turnaround so that no car will back out onto Pleasant St., as is currently the case, but rather drive straight out and merge with the traffic. This will be safer and ease congestion.

5. Surface Water Drainage:

Please see the attached engineered site plan.

6. Utility Service:

We request that all electrical, telephone, cable TV and other such lines remain above ground as they currently are and is typical for the area.

7. Advertising Features:

There will be none.

8. Special Features:

There will be none.

3.4.4 Environmental Design Review Standards continued

9. Safety:

The interior and exterior of the structure has been designed in such a way as to maximize facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment.

10. Heritage:

The house is in the Pleasant Street Historic District and the project has been approved by the AHDC.

11. Microclimate:

The building will be constructed to be in compliance with the International Building Code and all applicable energy efficiency requirements therein.

12. Sustainable Building and Site Design:

Please see the attached engineered site plan for sustainable site practices. The indoor environmental air quality will be controlled by current best practices in heating, cooling and ventilation as well as energy efficient appliances and equipment. There will be neither solar panels nor LEED certification.



LEED v4 for Building Design and Construction: Homes and Multifamily Lowrise

Project Checklist

Project Name: 149 Pleasant St Proposed 3 Family House

Date: 7/8/2024



Credit Integrative Process

2

0 0 0 Location and Transportation 15

Y Prereq Floodplain Avoidance Required

PERFORMANCE PATH

Credit LEED for Neighborhood Development Location 15

PRESCRIPTIVE PATH

Credit Site Selection 8

Credit Compact Development 3

Credit Community Resources 2

Credit Access to Transit 2

0 0 0 Sustainable Sites 7

Y Prereq Construction Activity Pollution Prevention Required

Y Prereq No Invasive Plants Required

Credit Heat Island Reduction 2

Credit Rainwater Management 3

Credit Non-Toxic Pest Control 2

0 0 0 Water Efficiency 12

Y Prereq Water Metering Required

PERFORMANCE PATH

Credit Total Water Use 12

PRESCRIPTIVE PATH

Credit Indoor Water Use 6

Credit Outdoor Water Use 4

0 0 0 Energy and Atmosphere 38

Y Prereq Minimum Energy Performance Required

Y Prereq Energy Metering Required

Y Prereq Education of the Homeowner, Tenant or Building Manager Required

PERFORMANCE PATH

Credit Annual Energy Use 29

BOTH PATHS

Credit Efficient Hot Water Distribution System 5

Credit Advanced Utility Tracking 2

Credit Active Solar Ready Design 1

Credit HVAC Start-Up Credentialing 1

PRESCRIPTIVE PATH

Y Prereq Home Size Required

Credit Building Orientation for Passive Solar 3

Credit Air Infiltration 2

Credit Envelope Insulation 2

Credit Windows 3

Credit Space Heating & Cooling Equipment 4

EA PRESCRIPTIVE PATH (continued)

Credit Heating & Cooling Distribution Systems 3

Credit Efficient Domestic Hot Water Equipment 3

Credit Lighting 2

Credit High Efficiency Appliances 2

Credit Renewable Energy 4

0 0 0 Materials and Resources 10

Y Prereq Certified Tropical Wood Required

Y Prereq Durability Management Required

Credit Durability Management Verification 1

Credit Environmentally Preferable Products 4

Credit Construction Waste Management 3

Credit Material Efficient Framing 2

0 0 0 Indoor Environmental Quality 16

Y Prereq Ventilation Required

Y Prereq Combustion Venting Required

Y Prereq Garage Pollutant Protection Required

Y Prereq Radon-Resistant Construction Required

Y Prereq Air Filtering Required

Y Prereq Environmental Tobacco Smoke Required

Y Prereq Compartmentalization Required

Credit Enhanced Ventilation 3

Credit Contaminant Control 2

Credit Balancing of Heating and Cooling Distribution Systems 3

Credit Enhanced Compartmentalization 1

Credit Enhanced Combustion Venting 2

Credit Enhanced Garage Pollutant Protection 2

Credit Low Emitting Products 3

0 0 0 Innovation 6

Y Prereq Preliminary Rating Required

Credit Innovation 5

Credit LEED AP Homes 1

0 0 0 Regional Priority 4

Credit Regional Priority: Specific Credit 1

Credit Regional Priority: Specific Credit 1

Credit Regional Priority: Specific Credit 1

Credit Regional Priority: Specific Credit 1

0 0 0 TOTALS Possible Points: 110

Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110



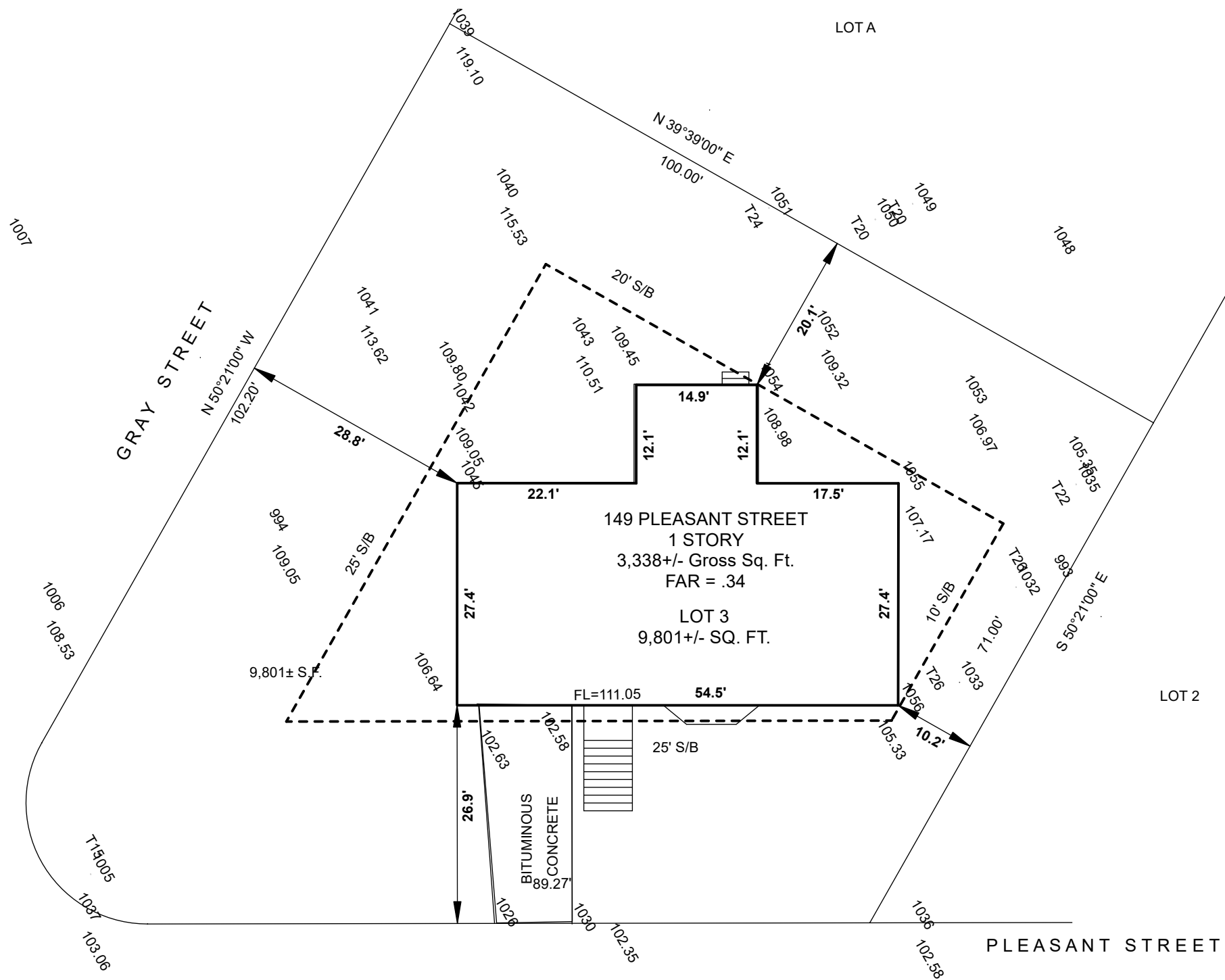
PROPOSED RESIDENCE
149 PLEASANT STREET
ARLINGTON MA
32 of 113



NEIGHBORHOOD PLAN
NO SCALE JUNE 20TH 2024

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PENZENIK
ARCHITECTS
781 + 248 + 5791, MARTHA@PENZENIK.COM
ARLINGTON MASSACHUSETTS

NEW RESIDENCE
149 PLEASANT ST
ARLINGTON MA 02476



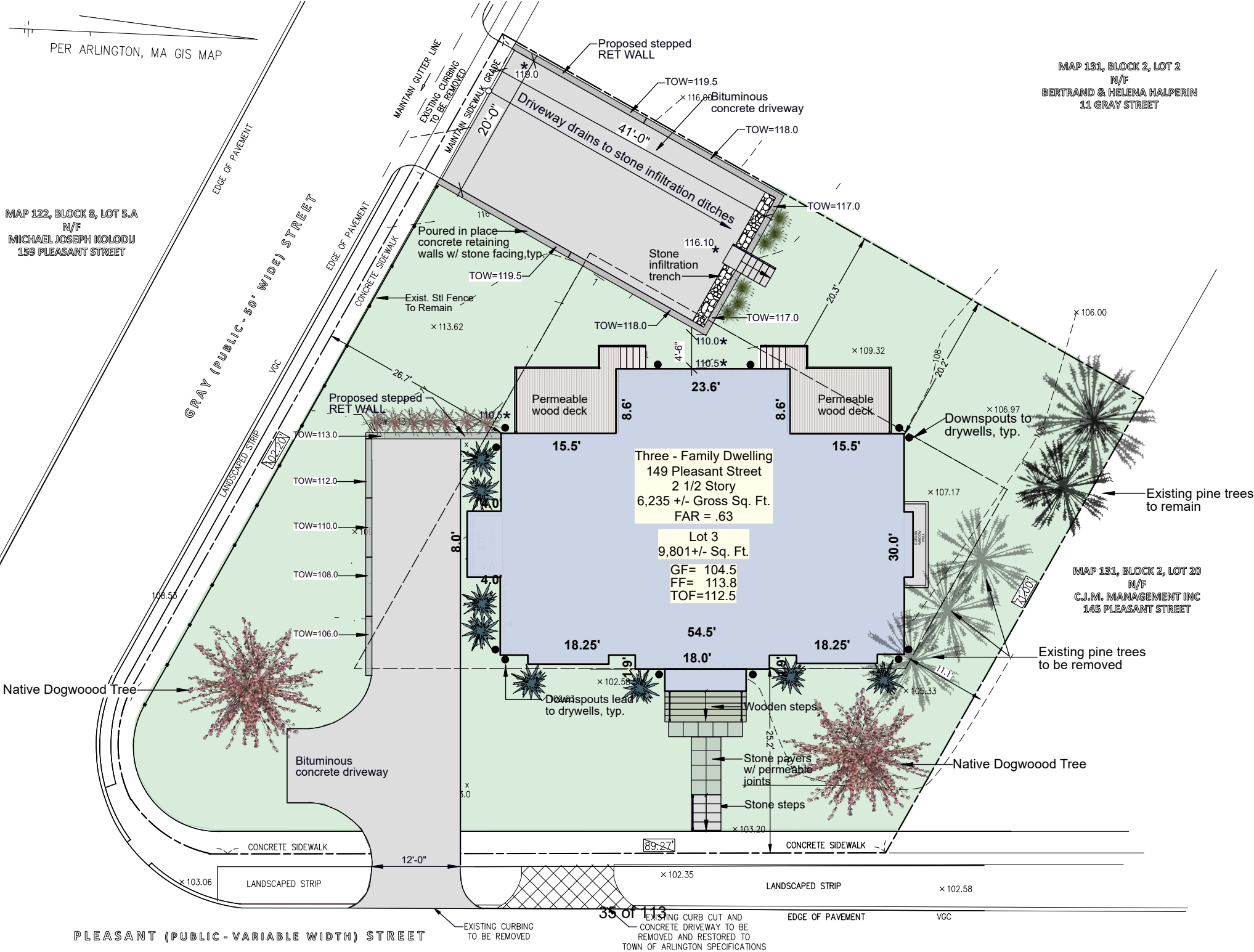
NEW RESIDENCE

149 PLEASANT ST
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ARLINGTON MASSACHUSETTS

EXISTING SITE PLAN
1/16" = 1'-0" JUNE 20TH 2024



MAP 122, BLOCK 8, LOT 5.A
N/F
MICHAEL JOSEPH KOLODIJ
159 PLEASANT STREET

MAP 131, BLOCK 2, LOT 2
N/F
BERTRAND & HELENA HALPERIN
11 GRAY STREET

MAP 131, BLOCK 2, LOT 20
N/F
C.J.M. MANAGEMENT INC
145 PLEASANT STREET

NEW RESIDENCE

149 PLEASANT ST
ARLINGTON MA 02476

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PROPOSED SITE PLAN
1/16" = 1'-0"
JUNE 20TH 2024





144 Pleasant Street



146, 148 and 150 Pleasant Street



152 Pleasant Street



149 Pleasant Street (Subject House)



147 Pleasant Street



159 Pleasant Street



John Viano House 1917
118 Pleasant Street



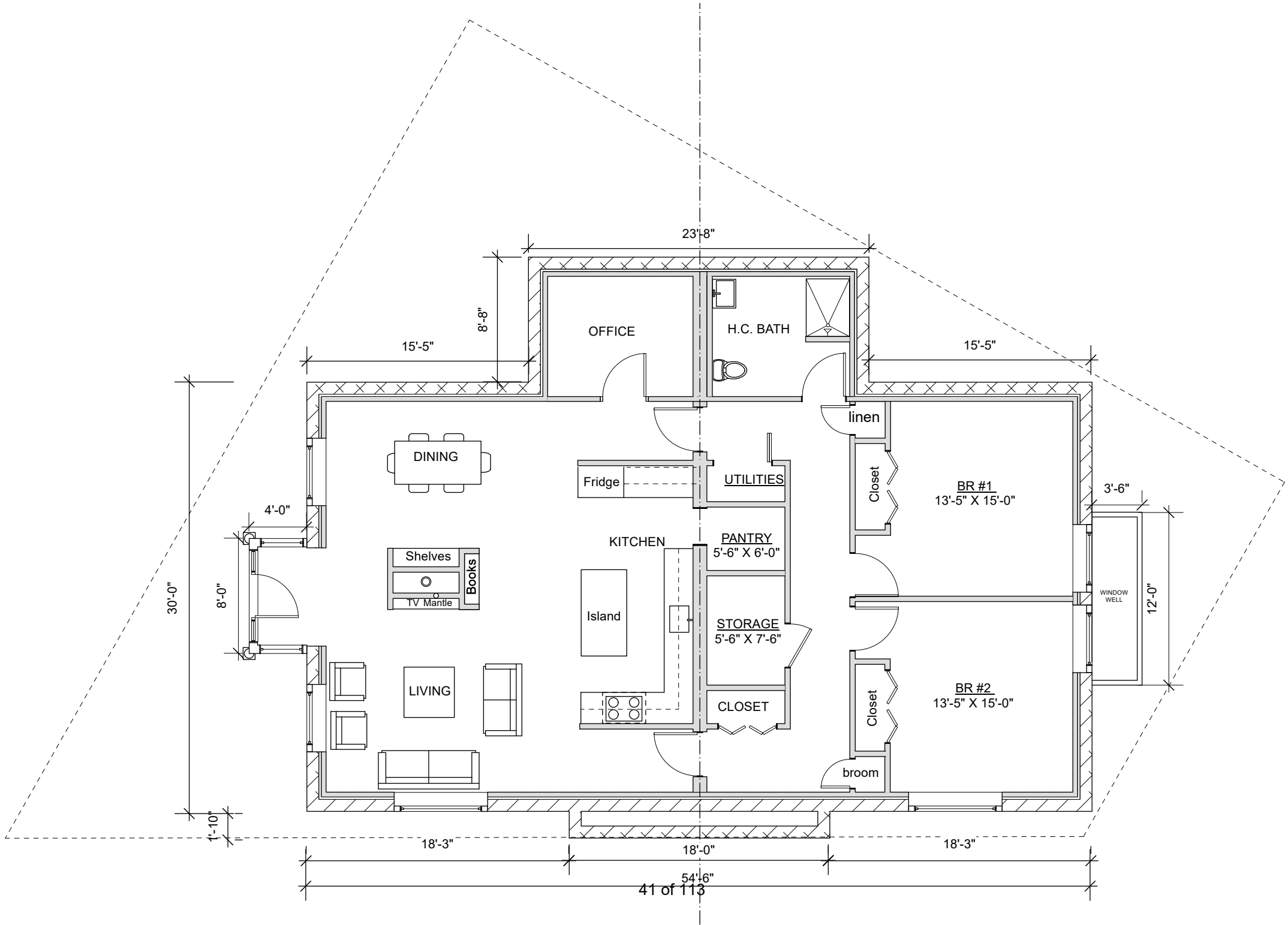
Ezra Robinson House 1911
164 Pleasant Street

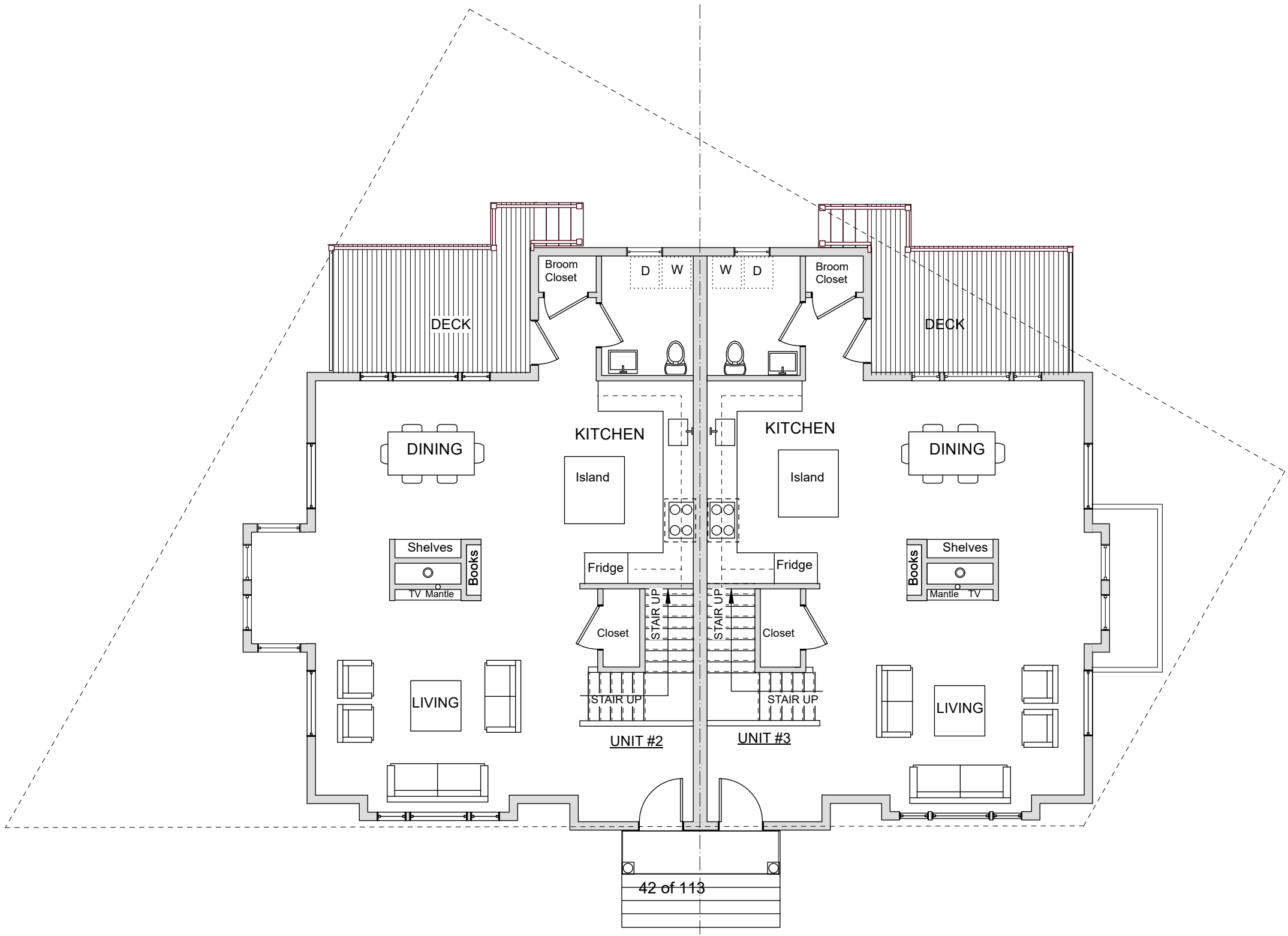


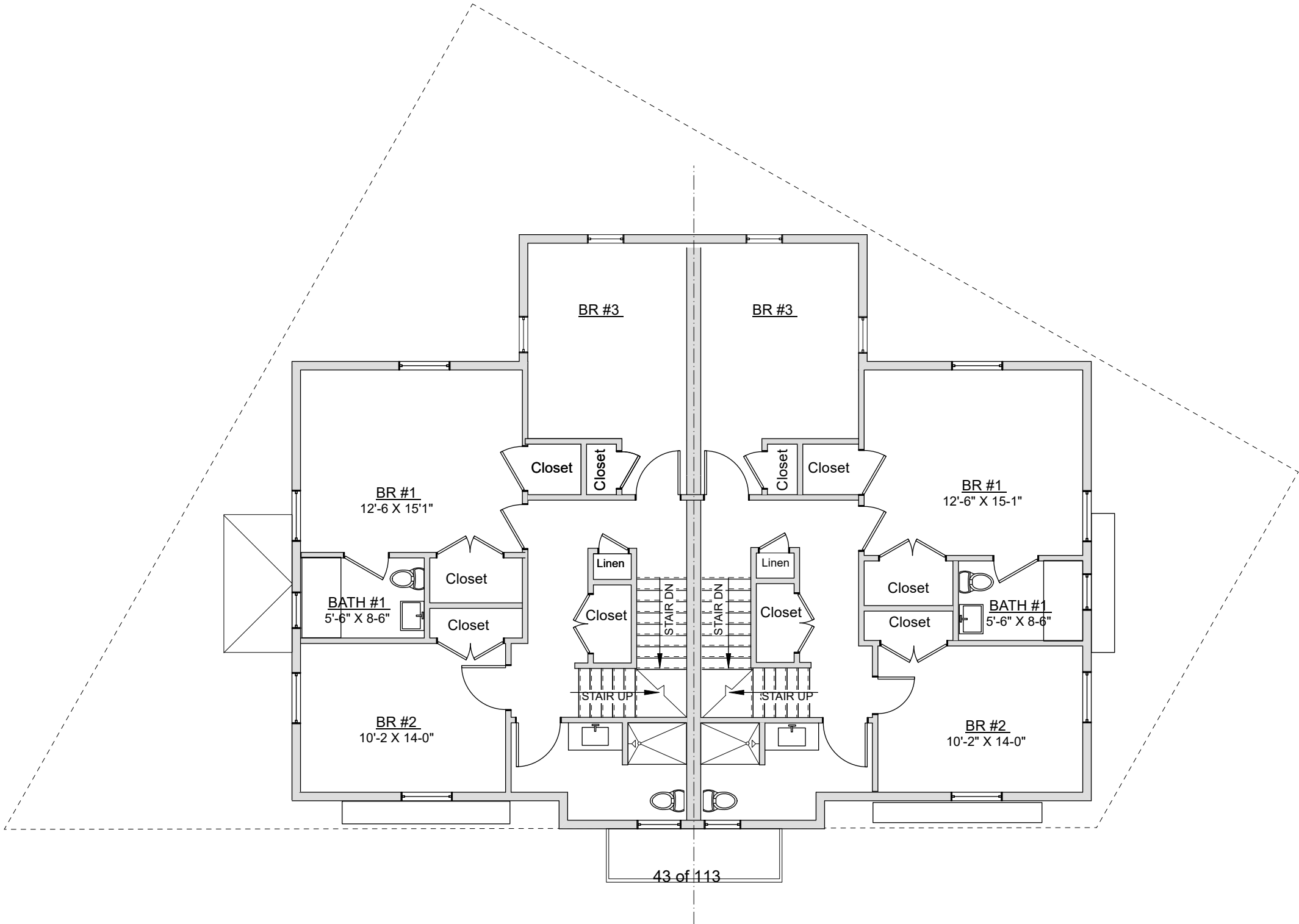
Circa 1917
170 Pleasant Street

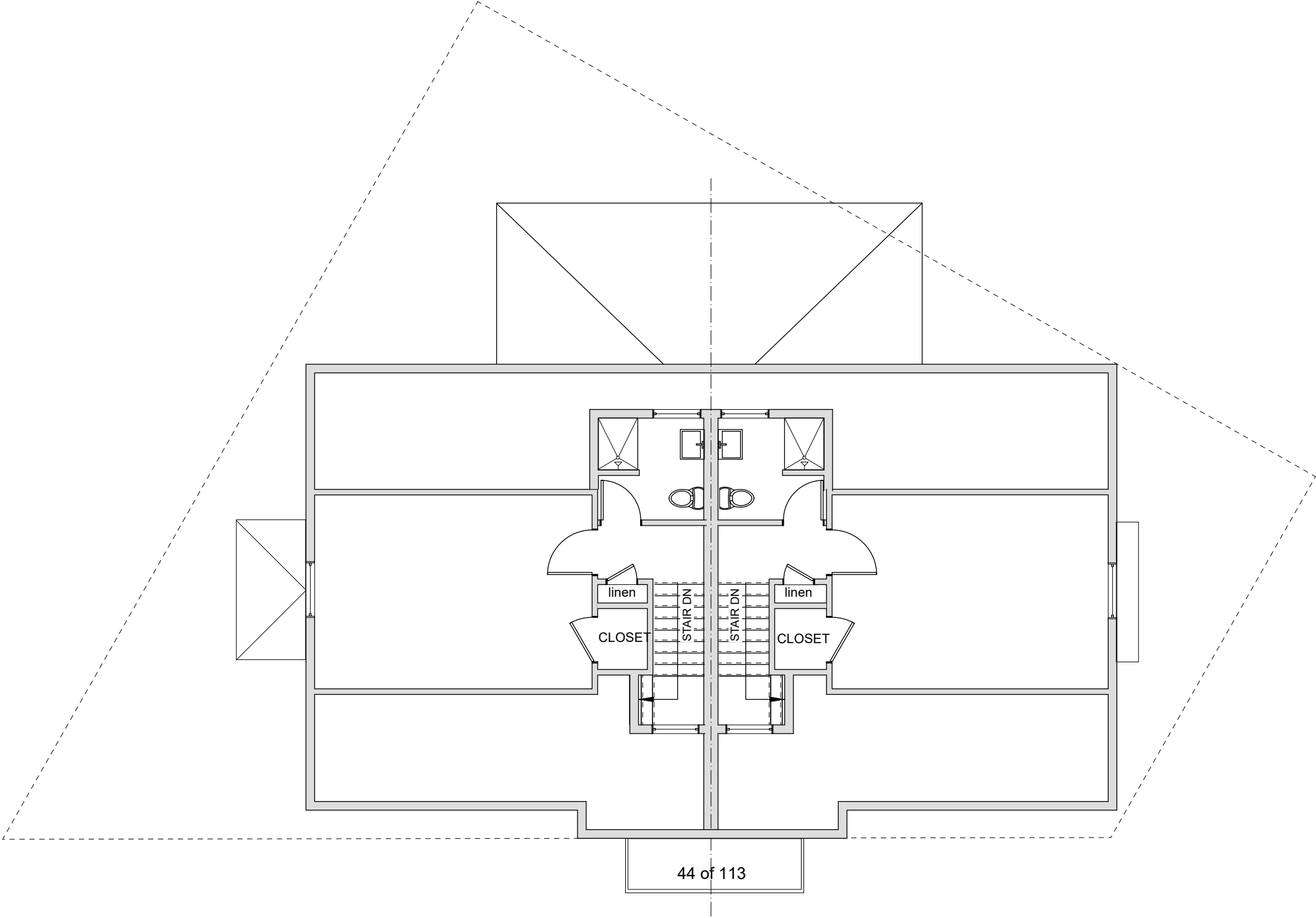


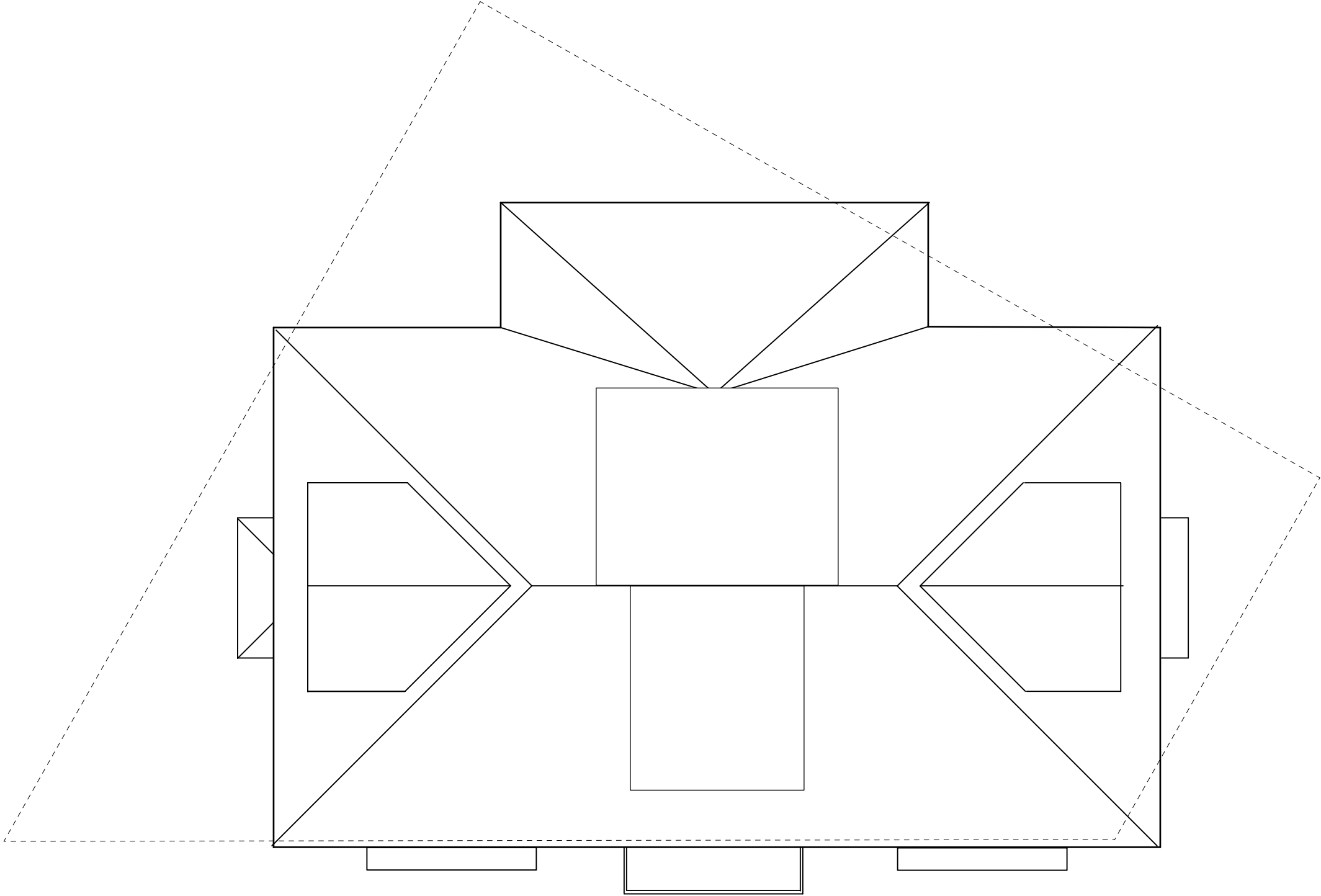
Frank V. Noyes House 1910
11 Gray Street













NEW RESIDENCE

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EAST ELEVATION
1/8" = 1'-0" JUNE 20TH 2024



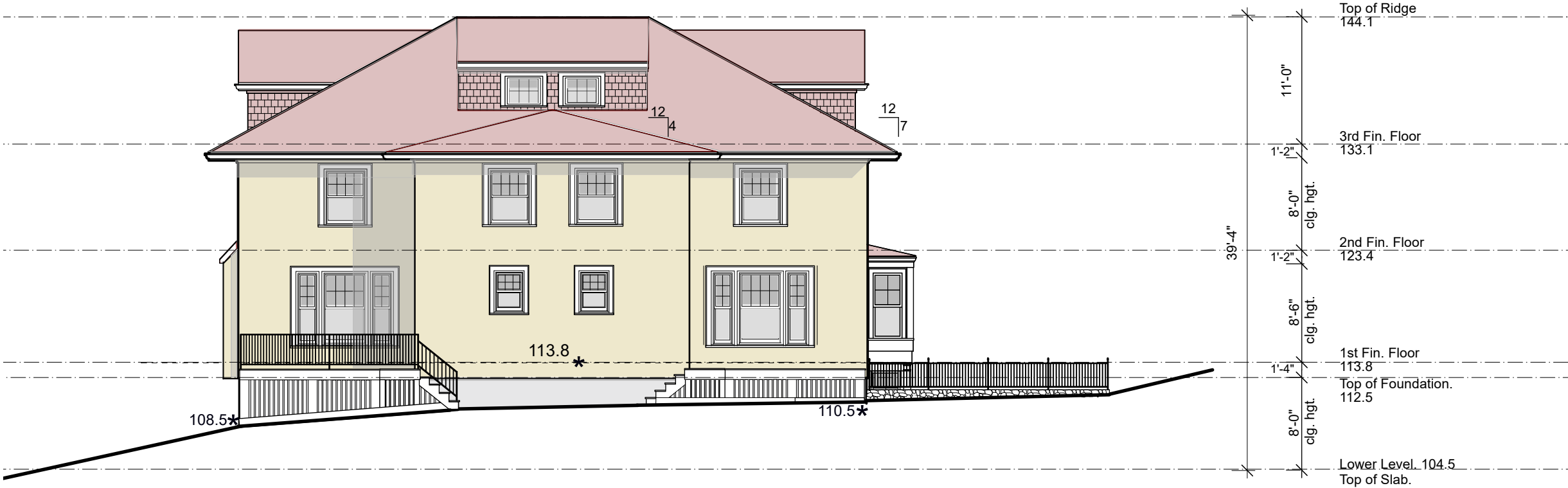
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SOUTH ELEVATION
1/8" = 1'-0"
JUNE 20TH 2024



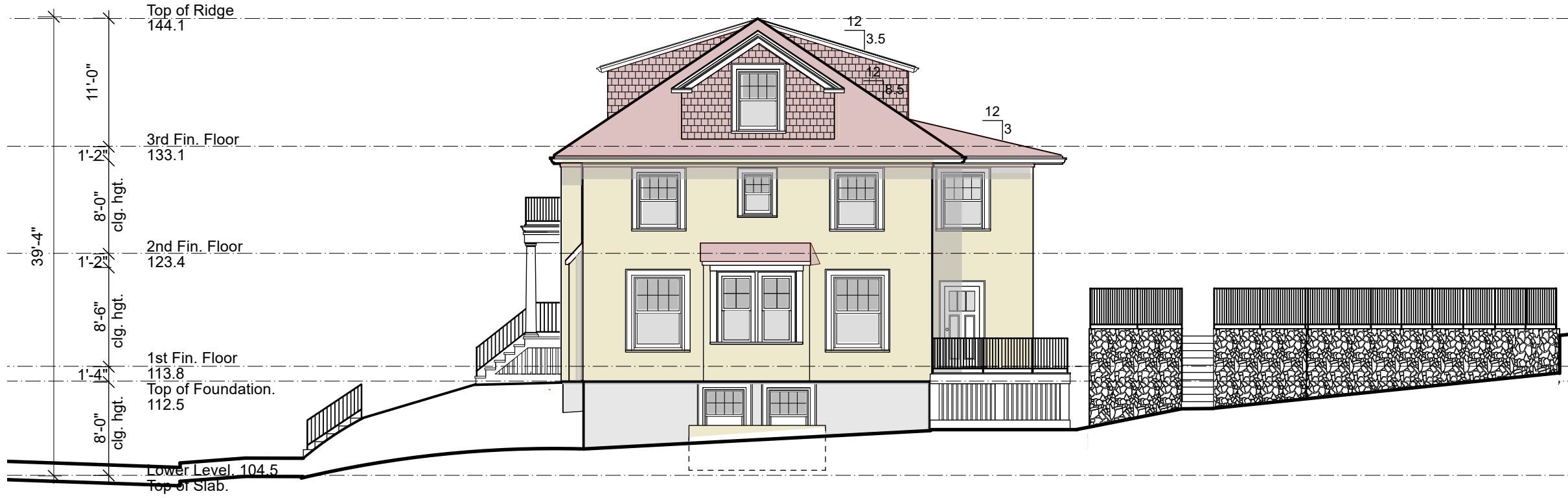
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WEST ELEVATION
1/8" = 1'-0" JUNE 20TH 2024



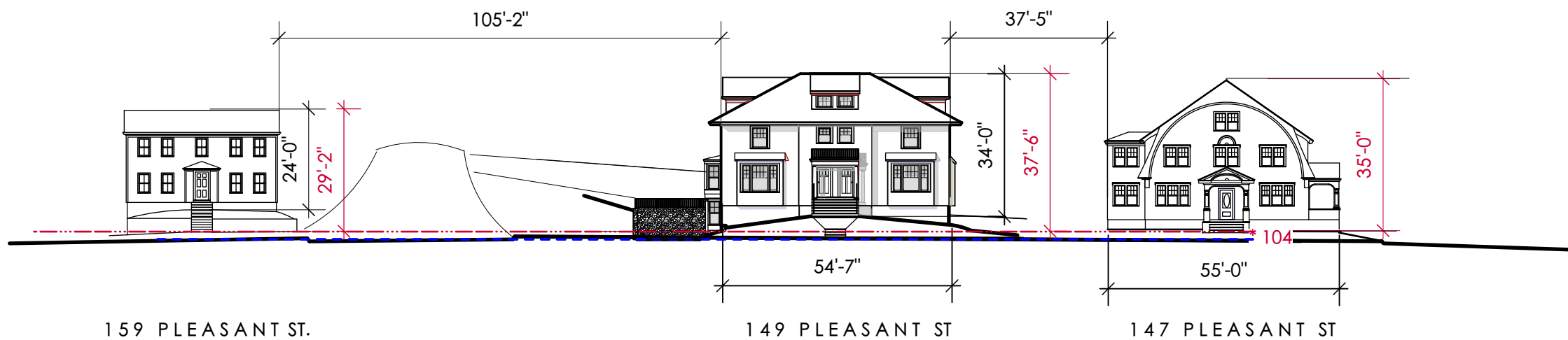
NEW RESIDENCE

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NORTH ELEVATION
1/8" = 1'-0" JUNE 20TH 2024



STREETSCAPE 1/32" = 1'-0"	MARTHA PENZENIK ARCHITECTS 781 + 248 + 5791, MARTHA@PENZENIK.COM ARLINGTON MASSACHUSETTS	NEW RESIDENCE 149 PLEASANT ST ARLINGTON MA 02476
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149 PLEASANT STREET ARLINGTON MA
PRODUCTS & MATERIALS

WINDOW NOTES:

1. ALL WINDOWS TO BE WOOD EXTERIOR.
2. DOUBLE HUNG AND AWNING WINDOWS ARE SPECIFIED AS THE MARVIN WOOD ULTIMATE LINE. OR EQUAL MAY BE SUBSTITUTED BUT MUST HAVE SAME SIZES AND SPECIFICATIONS.
3. 7/8" SIMULATED DIVIDED LIGHT WITH ALUMINUM SPACER BAR
4. HISTORIC SILL
5. EXTERIOR WINDOW TRIM TO BE WOOD 1X5 WITH BACKBAND

DOOR NOTES:

1. 36" W X 84" H
2. 6803 WITH DENTIL SHELF BY SIMPSON DOOR, OR EQUAL
3. TRIM TO BE WOOD 1X5 WITH BACKBAND

ROOFING

1. ROOFING MATERIAL TO BE ARCHITECTURAL STYLE COMPOSITE ASPHALT SHINGLE.
2. GUTTERS TO BE FIBERGLASS IN SHAPE OF WOOD GUTTER BY THE FIBERGLASS GUTTER COMPANY, PEMBROKE, MA OR EQUAL

FOUNDATION NOTES:

1. FOUNDATION WALLS ARE POURED IN PLACE CONCRETE WITH BRICK VENEER

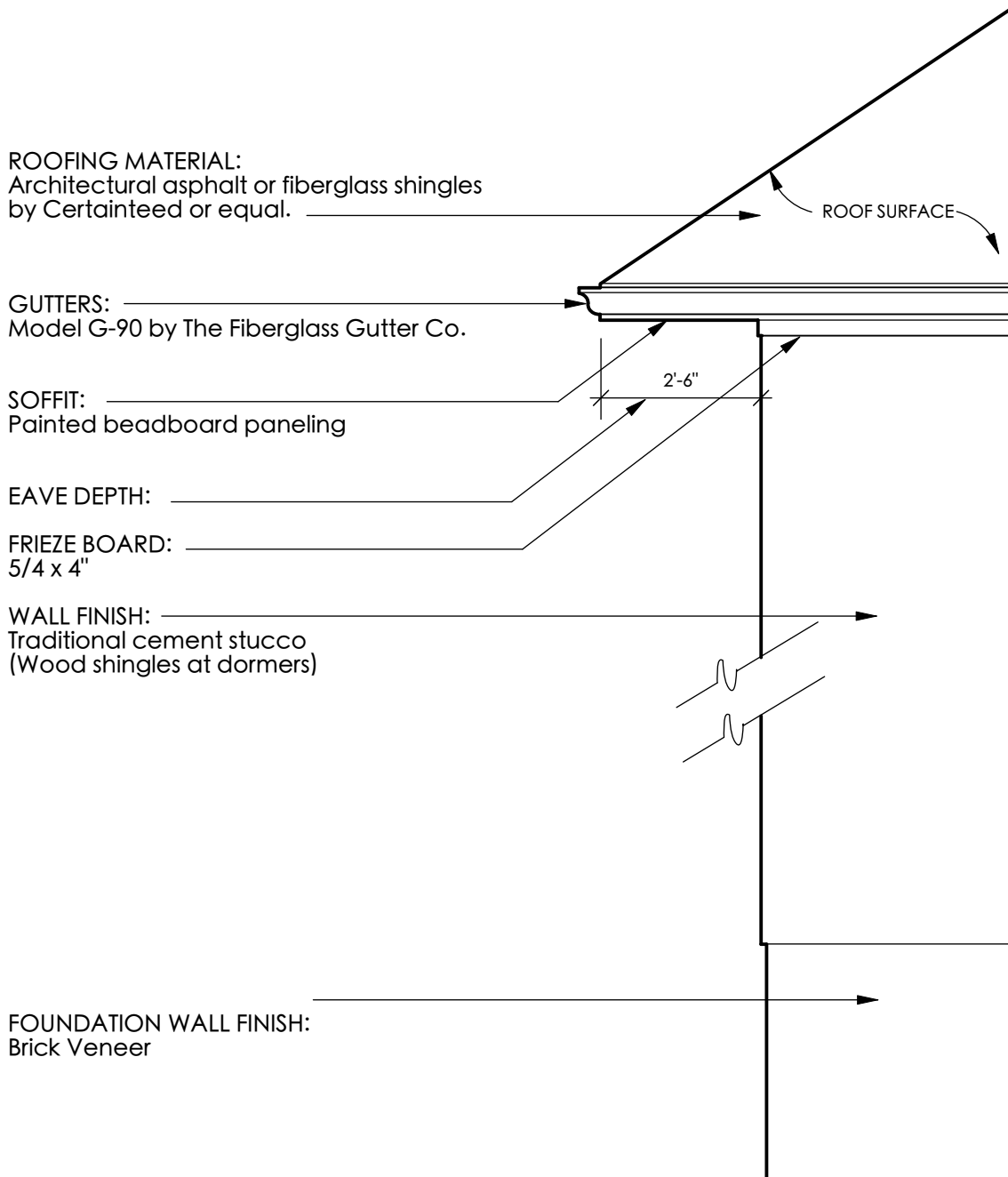
PORCHES AND STAIRS:

1. ALL PORCH AND STAIR ELEMENTS INCLUDING DECKING, EXCLUDING COLUMNS AND RAILINGS, TO BE WOOD ONLY.
2. COLUMNS TO BE TURNCRAFT OR EQUAL:
12" DURAGLASS TUSCAN NON-TAPERED SHAFT WITH TUSCAN BASE AND CAP.
3. 1/2" WROUGHT IRON BALUSTERS.
4. 1" x 1" WROUGHT IRON POSTS
5. 2" WROUGHT IRON TOP AND BOTTOM RAILS

EXTERIOR WALL FINISH:

1. 7" TO WEATHER WOOD SHINGLES W/ WOVEN CORNERS ON ALL DORMER FRONT AND SIDES
2. TRADITIONAL CEMENT STUCCO ON ALL HOUSE FACADES.
3. ALL DECK AND PORCH MATERIALS TO BE WOOD.

149 PLEASANT STREET ARLINGTON MA
PRODUCTS & MATERIALS



WINDOWS 1



Products

Solutions

Inspiration



INTERIOR

EXTERIOR

Ultimate Wood Double-hung
w/ 7/8" s.d.l. & alum. spacer bar;
historic sill; clear insulated glass; half
fiberglass screen; by Marvin.

Simulated Divided Lite with
Spacer Bar (SDLS)



Paired with SDL bars on the exterior of the
glass, a spacer bar is installed between the
glass, creating an even closer match to the
Authentic Divided Lite look.



Products

Solutions

Inspiration



Shown clad but available in wood

INTERIOR

EXTERIOR

Ultimate Wood Awning w/ 7/8" s.d.l. & alum.
spacer bar; fiberglass screen; historic sill

Ultimate Wood Double Hung

The all-wood Marvin
Signature® Ultimate Wood
Double Hung window is a
classic style ideal for historic
projects where a wood
exterior is needed to match
original architectural details.
Flexible design options like
wood species and stains
coupled with single hung or
stationary sash
configurations assist with
historical accuracy, while
wash mode makes cleaning
easy.

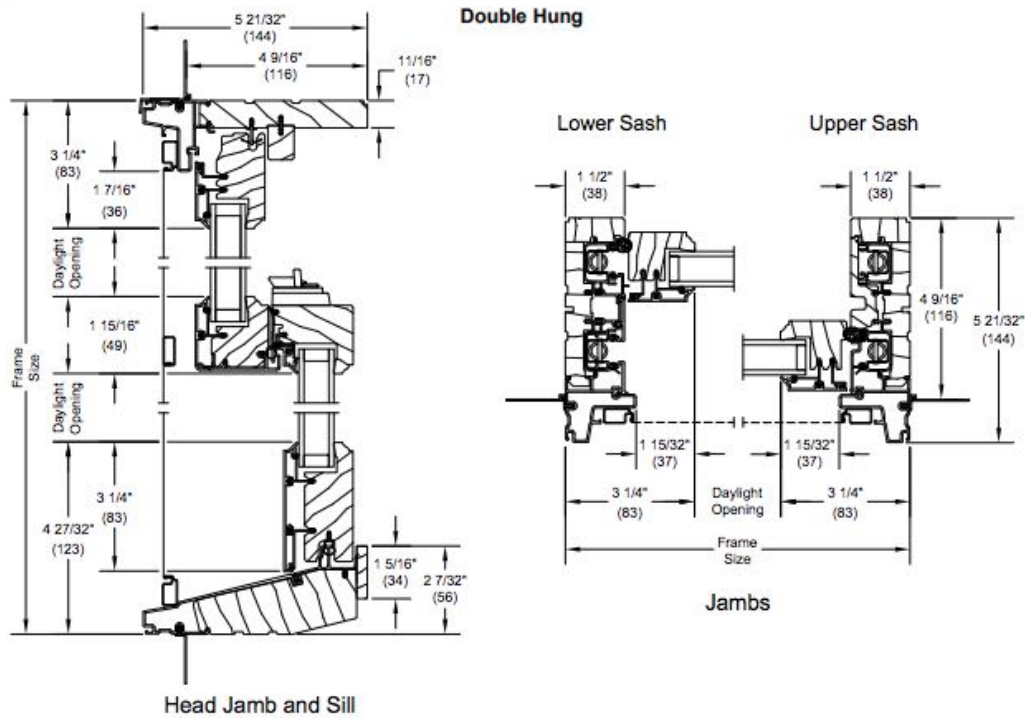
MARVIN WOOD DOUBLE HUNG WINDOW DETAILS



Ultimate Double Hung G2

Section Details: Operating

Scale: 3" = 1' 0"

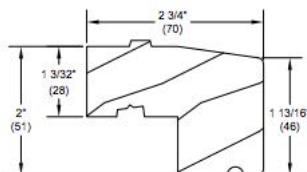


Essential Glider

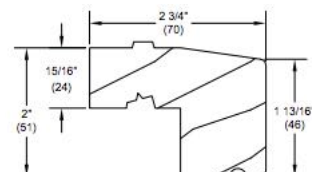
Section Details: Operator

Scale: 3" = 1' 0"

HISTORIC SILLS



W2165 - 2" Thick Subsill (UWDH)



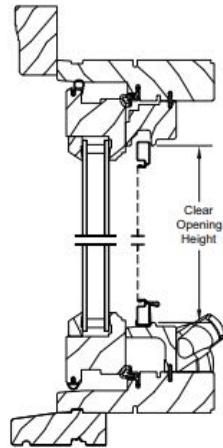
W10340 - 2" Simulated Thick Subsill (UWCA)

MARVIN WOOD AWNING WINDOW DETAILS

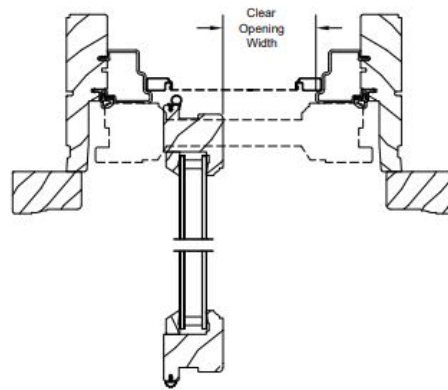


Ultimate Wood Casement, Awning and Picture

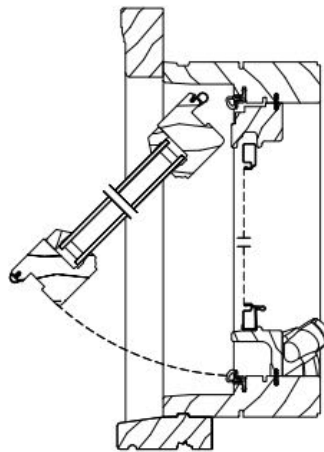
Egress and Vent Opening Measurement for Full Frame Casement and Awning



Head Jamb and Sill



Jambs



Head Jamb and Sill

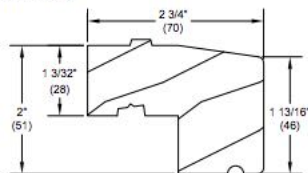


Accessories

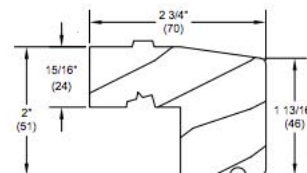
Wood Subsills

Not to Scale

HISTORIC SILLS

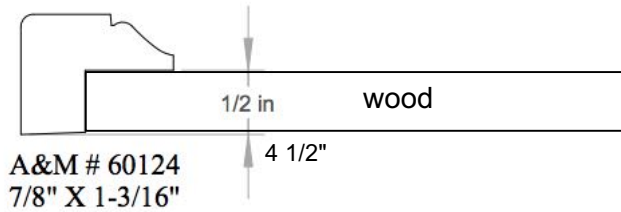


W2165 - 2" Thick Subsill (UWDH)



W10340 - 2" Simulated Thick Subsill (UWCA)

DOORS

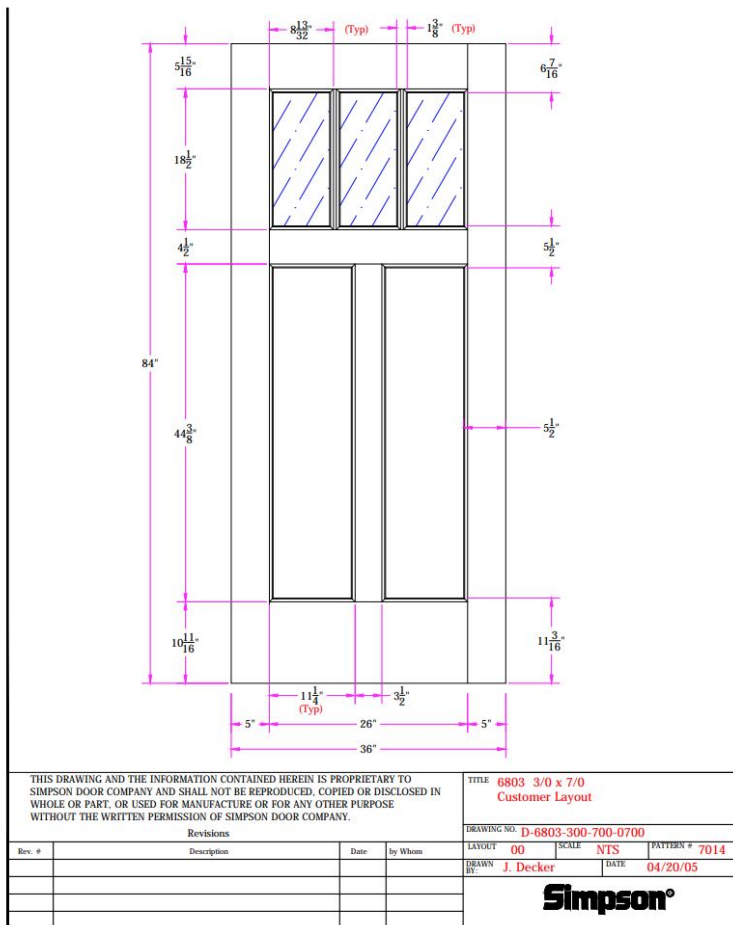


Window and door trim



36"X80" fir exterior door
model# 6803 with small
dentil shelf #9540 by
Simpson Doors

NO SCREEN DOOR



GUTTER AND DOWNSPOUT



Home

About Us

Fiberglass Gutter Advantage >

Fiberglass Gutter Profiles

Fiberglass Gutter Info >

Fiberglass Gutter Pictures

This Old House

News & Events

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Our Standard Fiberglass Gutter Profiles

Our standard fiberglass wood replacement gutter profiles are hand laid and come with genuine woodgrain texture and have a protective gelcoat shell. Our standard profiles are available in vintage white and in [custom colors](#).



Galvanized Steel Round Corrugated Downspouts

Item # GARCD3XG26X | 3 Rnd. Corrugated Downspout | Galvanized 26 GA



DOWNSPOUTS TERMINATE INTO
PVC PIPE EXTENSIONS LEADING
TO DRY WELLS. See Drawings

COLUMN

Poly-Classic® FRP Columns

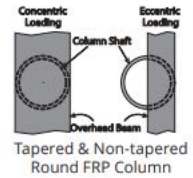
Tapered Round Shaft Specifications

Available fluted and unfluted in a wide range of sizes. Flutes in most 8", 10", and 12" diameter tapered shafts are molded right into the shaft, providing consistent ionic fluting. All sizes can also be custom-fluted for specific opening heights, and adjusted for the cap and base chosen. When shafts are custom fluted, typically the flutes end 1" from the top of the base.

Column Bottom Diameter ±	5'	6'	8'	9'	10'	12'	14'	16'	18'	20'	22'	24'	Concentric Load *	Eccentric Load *
6"	✓	✓	✓										6,000 lb.	6,000 lb.
8"	✓	✓	✓	✓	✓								10,000 lb.	6,600 lb.
10"	✓	✓	✓	✓	✓	✓							14,000 lb.	10,720 lb.
12"	✓	✓	✓	✓	✓	✓	✓						18,000 lb.	13,200 lb.
14"			✓	✓	✓	✓	✓	✓					20,000 lb.	11,520 lb.
16"	✓	✓	✓	✓	✓	✓	✓	✓	✓				20,000 lb.	13,200 lb.
18"			✓	✓	✓	✓	✓	✓	✓	✓			20,000 lb.	9,040 lb.
20"			✓	✓	✓	✓	✓	✓	✓	✓	✓		20,000 lb.	18,960 lb.
24"			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	20,000 lb.	13,200 lb.

All Poly-Classic® FRP Columns are available with custom fluting.

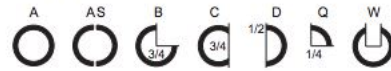
- ✓ Available unfluted.
- Available with standard flutes.



± Actual shaft width may be smaller than nominal size shown.
* Load capacities are reduced when loads are not centered. Full documentation regarding eccentric load capacities can be found online at Turncraft.com/pdf/EccentricLoad.pdf and Turncraft.com/pdf/LoadAddendum.pdf. Please refer to the online documentation regarding maximum eccentricity (beam offset from center) and other specifications.

PLAN TYPES

Poly-Classic® FRP Columns are available in the plan types below. Please specify when you order. (Fractional components shown are typical. Customer may specify actual returns, wall thicknesses, etc.)



TIMESAVER CAP AND BASE

New to the Turncraft product line, our 8" Square TimeSaver Cap and Base employs the same Quick-Fit installation pressure tabs as our round 8", 10", and 12" TimeSaver products. Our TimeSaver cap and base offers the easiest and quickest installation in the industry.



- Made out of fiber-reinforced recycled ABS (acrylonitrile butadiene styrene)
- Designed for use on round FRP columns in 8", 10", and 12" sizes
- Made with 95% recycled material
- Extremely strong and durable
- Self aligning with no fasteners
- Excellent paint adhesion
- Fast installation

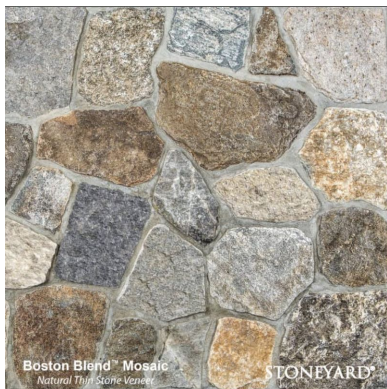


FRP Tuscan Tapered
Round Smooth

10" FRP Tuscan Tapered
Round Smooth Column by
Turncraft



WROUGHT IRON RAILINGS WITH 1/2" SQUARE BALUSTERS, 1" POSTS AND 2" HANDRAIL



Boston Blend® Mosaic
Natural Thin Stone Veneer

STONEYARD

BOSTON BLEND MOSAIC

Boston Blend® Mosaic, a natural stone product that can elevate the look of any space with its elegance and charm. The unique texture and color variation of this mosaic create depth and character in your design. With a wide range of colors including brown, gray, white, and beige, you have plenty of options to choose from.

[View Details](#)

[Request a Quote](#)

RETAINING WALL STONE VENEER

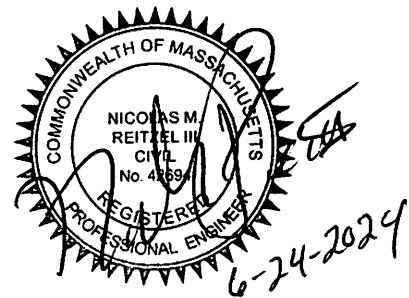


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STORMWATER REPORT

149 PLEASANT STREET
ARLINGTON, MASSACHUSETTS

JUNE 24, 2024



PREPARED FOR:

FTO REALTY
109 BLANCHARD ROAD
LAWRENCE, MASSACHUSETTS

TABLE OF CONTENTS:

SECTION 1.0	PROJECT NARRATIVE WITH SUMMARY TABLE AND MASSDEP STORMWATER STANDARDS <ul style="list-style-type: none">1.1 PROJECT NARRATIVE1.2 MASSDEP STORMWATER STANDARDS1.3 STORMWATER CHECKLIST
SECTION 2.0	MAPS <ul style="list-style-type: none">2.1 LOCUS MAP2.2 USGS TOPOGRAPHIC MAP2.3 ARLINGTON GIS MAP2.4 AERIAL IMAGE2.5 FEMA FIRMETTE FLOOD PLAIN MAP
SECTION 3.0	STORMWATER CALCULATIONS AND DATA <ul style="list-style-type: none">DRAINAGE CALCULATIONS (HYDROCAD DATA) WITH ATTACHED SUBCATCHMENT PLANS
SECTION 4.0	CONSTRUCTION-PERIOD, OPERATION & MAINTENANCE, AND LONG-TERM POLLUTION PREVENTION PLAN <ul style="list-style-type: none">4.1 INTRODUCTION4.2 RESPONSIBLE PARTIES4.3 CONSTRUCTION PERIOD MAINTENANCE PROCEDURES4.4 POST-DEVELOPMENT PERIOD MAINTENANCE PROCEDURES
ATTACHMENTS	<ul style="list-style-type: none">- SOIL LOGS

SECTION 1: PROJECT NARRATIVE WITH SUMMARY TABLE AND MASSDEP STORMWATER STANDARDS

SECTION 1.1 - PROJECT NARRATIVE

The subject property, located at 149 Pleasant Street, is located in the R4 (Residence 4) zoning district in Arlington, Massachusetts. The subject property contains 9,805± square feet of area and is a corner lot with frontage along the western side of Pleasant Street and the northern side of Gray Street. Presently the property contains a 2-story, single-family dwelling with a paved driveway.

The on-site soils are medium to coarse sand with a Hydrologic Soil Group (HSG) rating of "A", as confirmed by soil test holes conducted across the site. The subject property gradually slopes from west to east, from the corner of the property on Gray Street down across the property towards Pleasant Street and a corner of the northeastern abutter's property (at 145 Pleasant Street). For the purposes of the HydroCAD stormwater analysis, Pleasant Street and the northeastern abutter serve as the pre-development and post-development analysis point.

The no portion of the subject property is located within any FEMA Flood Hazard Area.

The applicant is proposing to raze the existing dwelling and remove the existing paved driveway, and to construct a 2.5-story, 3-family dwelling with a paved driveway off of Pleasant Street and another paved driveway off of Gray Street.

In order to mitigate stormwater runoff for this proposed redevelopment, there will be roof drains leading to proposed drywells, as well as a gravel treatment and infiltration trench along the downgradient side of the proposed driveway off of Gray Street, and a deep-sump catch basin within the proposed driveway off of Pleasant Street.

SECTION 1.2 – SUMMARY TABLE & STORMWATER STANDARDS

STANDARD 1 - No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

This Standard is met.

STANDARD 2 - Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.

The following table summarizes the Pre- vs. Post-development runoff calculations from the attached HydroCAD data, demonstrating compliance with Standard 2:

	Analysis Point	1R	2R
2-YEAR (3.1 inches)	Pre Runoff (cfs)	0.03	0.00
	Post Runoff (cfs)	0.00	0.00
	Change	-0.03 (-100%)	-0.00 (-0%)
10-YEAR (4.5 inches)	Pre Runoff (cfs)	0.16	0.01
	Post Runoff (cfs)	0.04	0.00
	Change	-0.12 (-75%)	-0.01 (-100%)
25-YEAR (5.4 inches)	Pre Runoff (cfs)	0.27	0.03
	Post Runoff (cfs)	0.09	0.02
	Change	-0.18 (-67%)	-0.01 (-33%)

This Standard is met.

STANDARD 3 - Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

Required Recharge Volume (R_V)

R_V = Total Post-Dev. Impervious Area (sf) * 0.60 inches for A-type soils * 1/12 ft/inches

R_V = 4,300 ± sf * 0.60 inches * 1/12 ft/inches

R_V = 215±cf

The proposed drywells (11P & 12P) and the gravel treatment and infiltration trench (22P) have a total combined storage volume of 527±cf (3,942±gallons), exceeding the required volume.

Drawdown Time

The proposed drywell at Pond 11P has a total storage volume of 222±cf and a bottom area of 50±sf.

$$\begin{aligned}T(11P) &= \text{Volume} / (K * \text{Bottom Area}) \\&= 222\pm\text{cf} / (8.27 \text{ in/hr} * (1 \text{ ft}/12 \text{ in}) * 50\pm\text{sf}) = 6.4\pm \text{ hours} \\6.4 \text{ hours} &< 72 \text{ hours}\end{aligned}$$

The proposed drywell at Pond 21P has a total storage volume of 297±cf and a bottom area of 50±sf.

$$\begin{aligned}T(21P) &= \text{Volume} / (K * \text{Bottom Area}) \\&= 297\pm\text{cf} / (8.27 \text{ in/hr} * (1 \text{ ft}/12 \text{ in}) * 50\pm\text{sf}) = 8.6\pm \text{ hours} \\8.6 \text{ hours} &< 72 \text{ hours}\end{aligned}$$

The proposed gravel trench at Pond 22P has a total storage volume of 80±cf and a bottom area of 40±sf.

$$\begin{aligned}T(13P) &= \text{Volume} / (K * \text{Bottom Area}) \\&= 80\pm\text{cf} / (8.27 \text{ in/hr} * (1 \text{ ft}/12 \text{ in}) * 40\pm\text{sf}) = 2.9\pm \text{ hours} \\2.9 \text{ hours} &< 72 \text{ hours}\end{aligned}$$

This Standard is met.

STANDARD 4 - Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when: (a) Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained; (b) Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and (c) Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.

Water Quality Volume

$$\begin{aligned}V_{WQ} &= (D_{WQ} / 12 \text{ in/ft}) * A_{IMP} \\&= (1.0 \text{ in} / 12 \text{ in/ft}) * 4,300\pm\text{sf} \\&= 358\pm\text{cf}\end{aligned}$$

The proposed drywells (11P & 12P) and the gravel treatment and infiltration trench (22P) have a total combined storage volume of 527±cf (3,942±gallons), exceeding the required volume.

There are two treatment trains for the proposed development:

Deep Sump Catch Basin/Filter Trench → Drywell:

<u>Initial Load</u>	<u>BMP</u>	<u>TSS Removal</u>	<u>Remaining TSS Load</u>
1.00	Deep Sump CB/Filter Trench (25%)	-0.25	0.75
0.75	Drywell (80%)	-0.60	0.15

This treatment train removes 85% of the TSS Load

This Standard is met.

STANDARD 5 - *Land Uses with Higher Potential Pollutant Loads (LUHPPL).*

The proposed development is not a LUHPPL.

This Standard is met.

STANDARD 6 - *Stormwater discharges within critical areas.*

The proposed development is not located within a critical area.

This Standard is met.

STANDARD 7 - *Redevelopment Projects.*

Though the proposed project is a redevelopment, it complies with all stormwater standards.

This Standard is met.

STANDARD 8 - *A plan to control construction-related impacts including erosion, sedimentation, and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.*

Please refer to the *Construction, Operation and Maintenance, and Long-term Pollution Prevention Plan*.

This Standard is met.

STANDARD 9 - *A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.*

Please refer to the *Construction, Operation and Maintenance, and Long-term Pollution Prevention Plan*.

This Standard is met.

STANDARD 10 - *All illicit discharges to the stormwater management system are prohibited.*

Please refer to the *Construction, Operation and Maintenance, and Long-term Pollution Prevention Plan*.

This Standard is met.



Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.¹ This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8²
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the

¹ The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

² For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



N. M. Reitzel III 6-24-2024
Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- ☐ New development
- ☒ Redevelopment
- ☐ Mix of New Development and Redevelopment

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of



Checklist for Stormwater Report

the project:

- ☒ No disturbance to any Wetland Resource Areas
- ☒ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☐ Reduced Impervious Area (Redevelopment Only)
- ☐ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
 - ☐ Credit 1
 - ☐ Credit 2
 - ☐ Credit 3
- ☐ Use of "country drainage" versus curb and gutter conveyance and pipe
- ☐ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☐ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☐ Other (describe): _____

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☒ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist (continued)

Standard 2: Peak Rate Attenuation



Checklist for Stormwater Report

- ☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- ☐ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- ☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- ☒ Soil Analysis provided.
- ☒ Required Recharge Volume calculation provided.
- ☐ Required Recharge volume reduced through use of the LID site Design Credits.
- ☐ Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - ☒ Static
 - ☐ Simple Dynamic
 - ☐ Dynamic Field¹
- ☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.
- ☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- ☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- ☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
 - ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
 - ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- ☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- ☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Checklist (continued)

Standard 3: Recharge (continued)



Checklist for Stormwater Report

- ☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- ☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- ☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
- ☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
- ☐ is within the Zone II or Interim Wellhead Protection Area
 - ☐ is near or to other critical areas
 - ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - ☐ involves runoff from land uses with higher potential pollutant loads.
- ☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.
- ☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist (continued)

Standard 4: Water Quality (continued)



Checklist for Stormwater Report

- ☒ The BMP is sized (and calculations provided) based on:
 - ☒ The ½" or 1" Water Quality Volume or
 - ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- ☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the proprietary BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- ☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- ☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- ☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted *prior to* the discharge of stormwater to the post-construction stormwater BMPs.
- ☐ The NPDES Multi-Sector General Permit does *not* cover the land use.
- ☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- ☐ All exposure has been eliminated.
- ☐ All exposure has *not* been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- ☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- ☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- ☐ Critical areas and BMPs are identified in the Stormwater Report.

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable



Checklist for Stormwater Report

- ☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
- ☐ Limited Project
 - ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - ☒ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - ☐ Bike Path and/or Foot Path
 - ☒ Redevelopment Project
 - ☐ Redevelopment portion of mix of new and redevelopment.
- ☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- ☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- ☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)



Checklist for Stormwater Report

- ☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- ☒ The project is **not** covered by a NPDES Construction General Permit.
- ☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- ☐ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

- ☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - ☒ Name of the stormwater management system owners;
 - ☒ Party responsible for operation and maintenance;
 - ☒ Schedule for implementation of routine and non-routine maintenance tasks;
 - ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
 - ☐ Description and delineation of public safety features;
 - ☐ Estimated operation and maintenance budget; and
 - ☐ Operation and Maintenance Log Form.
- ☐ The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

- ☒ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- ☒ An Illicit Discharge Compliance Statement is attached;
- ☐ NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

SECTION 2: MAPS

FIGURE 2.1, LOCUS MAP
(NOT TO SCALE)



FIGURE 2.2
USGS TOPOGRAPHIC MAP
(NO SCALE)

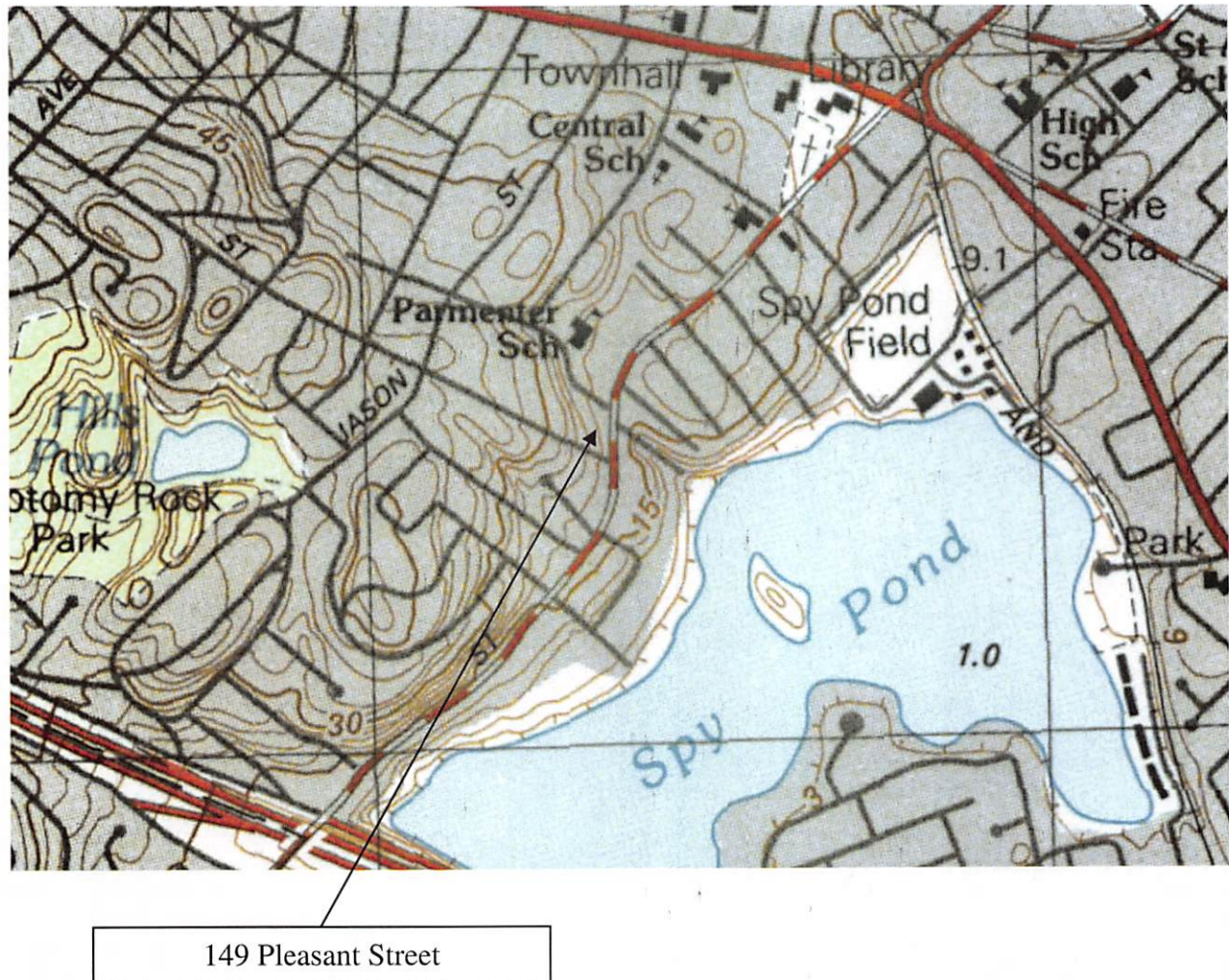


FIGURE 2.3
ARLINGTON GIS MAP
(NO SCALE)



149 Pleasant Street

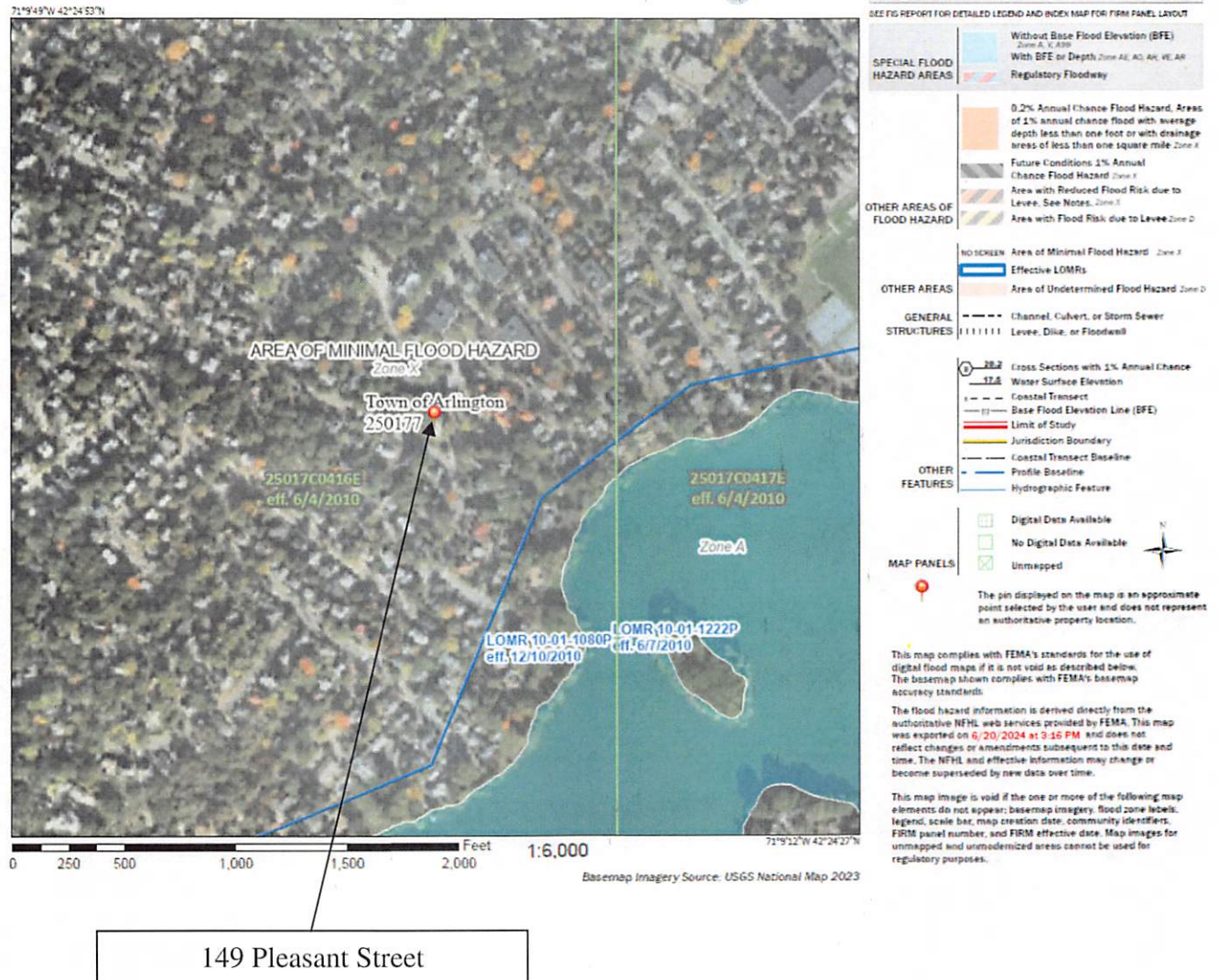
FIGURE 2.4
AERIAL IMAGE
(NO SCALE)



149 Pleasant Street

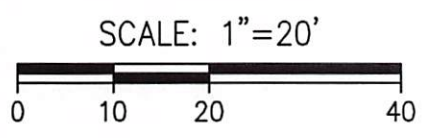
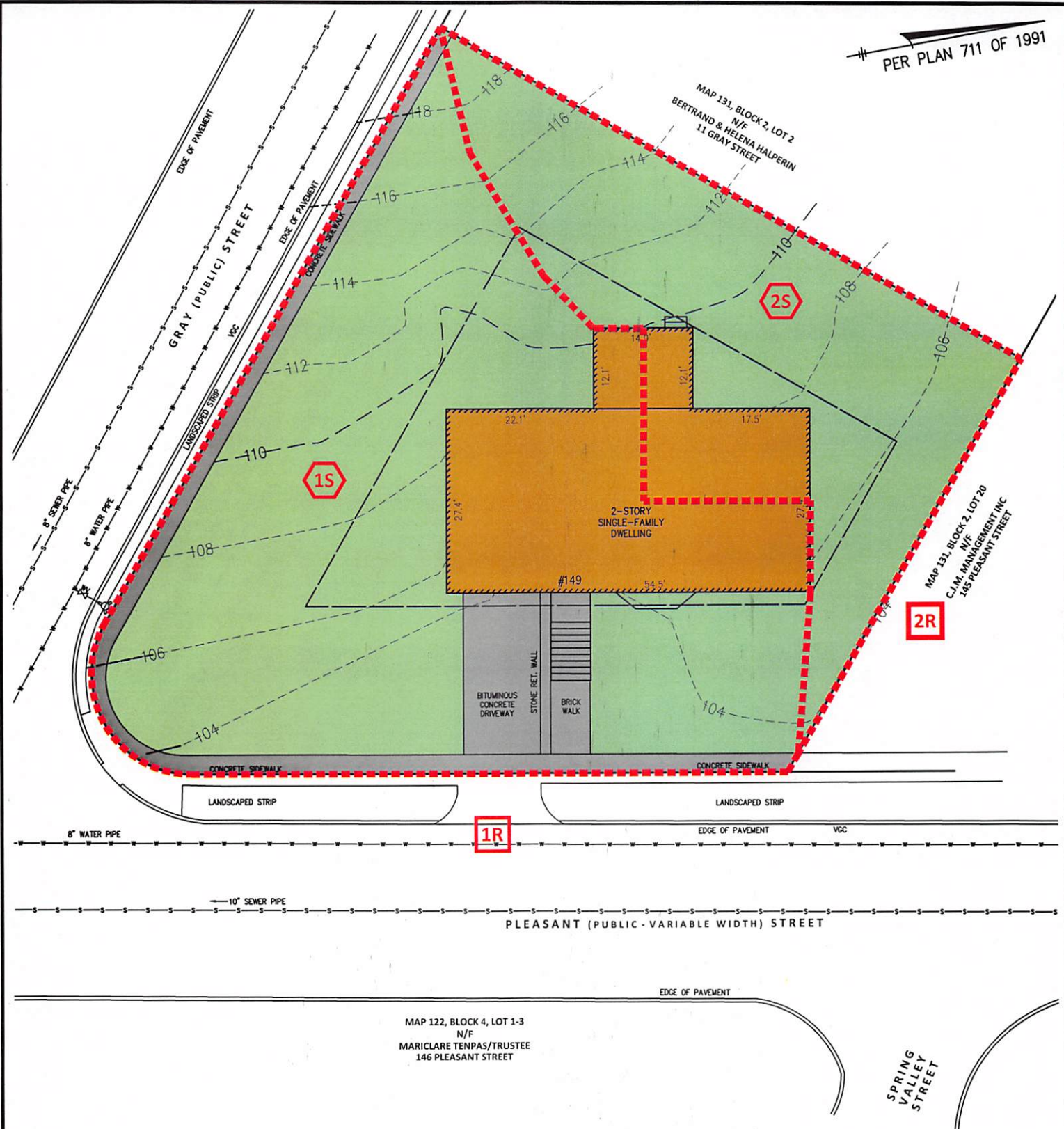
FIGURE 2.5
FEMA FIRMETTE FLOOD PLAIN MAP
(NO SCALE)

National Flood Hazard Layer FIRMette



SECTION 3: STORMWATER CALCULATIONS AND DATA

PER PLAN 711 OF 1991



PRE-DEVELOPMENT SUBCATCHMENT PLAN

149 PLEASANT STREET
ARLINGTON, MASSACHUSETTS

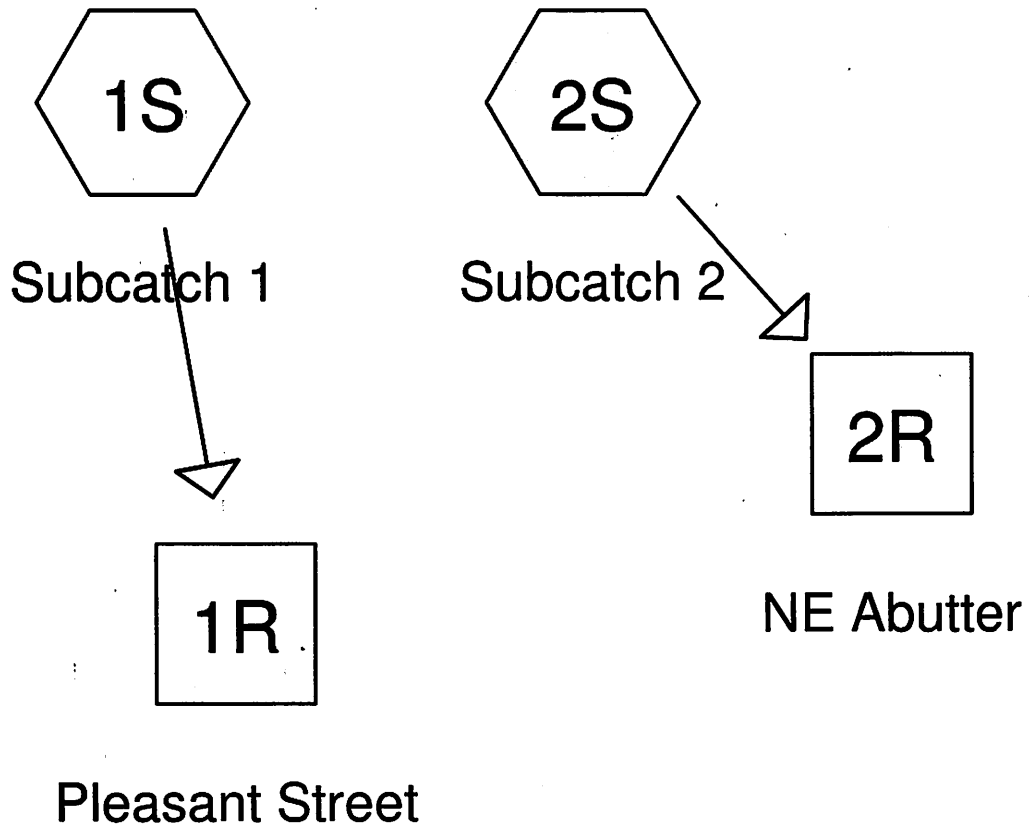
PLAN PREPARED FOR:
FTO REALTY
109 BLANCHARD ROAD
LAWRENCE, MASSACHUSETTS

JUNE 24, 2024

SCALE: 1"=20'



CIVIL ENGINEERING - SURVEYING
10 George Street, Suite 208
Lowell, Massachusetts 01852
978-201-9390 - LandPlex.com



Subcatchment 1S: Subcatch 1

Runoff = 0.03 cfs @ 12.10 hrs, Volume= 0.004 af, Depth> 0.29"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
2,270	98	Roof, Driveway, Sidewalks
4,480	39	>75% Grass cover, Good, HSG A
6,750	59	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	50	0.1800	0.4		Sheet Flow, Sheet Grass Grass: Short n= 0.150 P2= 3.10"
0.4	60	0.1200	2.4		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
2.8	110	Total			

Subcatchment 2S: Subcatch 2

Runoff = 0.00 cfs @ 14.95 hrs, Volume= 0.000 af, Depth> 0.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
435	98	Paved Parking
2,620	39	>75% Grass cover, Good, HSG A
3,055	47	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	50	0.1600	0.3		Sheet Flow, Sheet Grass Grass: Short n= 0.150 P2= 3.10"
0.3	50	0.1400	2.6		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
2.8	100	Total			

Reach 1R: Pleasant Street

Inflow Area = 0.155 ac, Inflow Depth > 0.29" for 2-Year event
Inflow = 0.03 cfs @ 12.10 hrs, Volume= 0.004 af
Outflow = 0.03 cfs @ 12.10 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: NE Abutter

Inflow Area = 0.070 ac, Inflow Depth > 0.04" for 2-Year event

Inflow = 0.00 cfs @ 14.95 hrs, Volume= 0.000 af

Outflow = 0.00 cfs @ 14.95 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Subcatchment 1S: Subcatch 1

Runoff = 0.16 cfs @ 12.06 hrs, Volume= 0.011 af, Depth> 0.86"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
2,270	98	Roof, Driveway, Sidewalks
4,480	39	>75% Grass cover, Good, HSG A
6,750	59	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	50	0.1800	0.4		Sheet Flow, Sheet Grass Grass: Short n= 0.150 P2= 3.10"
0.4	60	0.1200	2.4		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
2.8	110	Total			

Subcatchment 2S: Subcatch 2

Runoff = 0.01 cfs @ 12.27 hrs, Volume= 0.002 af, Depth> 0.32"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
435	98	Paved Parking
2,620	39	>75% Grass cover, Good, HSG A
3,055	47	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	50	0.1600	0.3		Sheet Flow, Sheet Grass Grass: Short n= 0.150 P2= 3.10"
0.3	50	0.1400	2.6		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
2.8	100	Total			

Reach 1R: Pleasant Street

Inflow Area = 0.155 ac, Inflow Depth > 0.86" for 10-Year event

Inflow = 0.16 cfs @ 12.06 hrs, Volume= 0.011 af

Outflow = 0.16 cfs @ 12.06 hrs, Volume= 0.011 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: NE Abutter

Inflow Area = 0.070 ac, Inflow Depth > 0.32" for 10-Year event

Inflow = 0.01 cfs @ 12.27 hrs, Volume= 0.002 af

Outflow = 0.01 cfs @ 12.27 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Subcatchment 1S: Subcatch 1

Runoff = 0.27 cfs @ 12.06 hrs, Volume= 0.017 af, Depth> 1.33"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.40"

Area (sf)	CN	Description
2,270	98	Roof, Driveway, Sidewalks
4,480	39	>75% Grass cover, Good, HSG A
6,750	59	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.4	50	0.1800	0.4		Sheet Flow, Sheet Grass Grass: Short n= 0.150 P2= 3.10"
0.4	60	0.1200	2.4		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
2.8	110	Total			

Subcatchment 2S: Subcatch 2

Runoff = 0.03 cfs @ 12.09 hrs, Volume= 0.003 af, Depth> 0.60"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.40"

Area (sf)	CN	Description
435	98	Paved Parking
2,620	39	>75% Grass cover, Good, HSG A
3,055	47	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	50	0.1600	0.3		Sheet Flow, Sheet Grass Grass: Short n= 0.150 P2= 3.10"
0.3	50	0.1400	2.6		Shallow Concentrated Flow, Shallow Grass Short Grass Pasture Kv= 7.0 fps
2.8	100	Total			

Reach 1R: Pleasant Street

Inflow Area = 0.155 ac, Inflow Depth > 1.33" for 25-Year event

Inflow = 0.27 cfs @ 12.06 hrs, Volume= 0.017 af

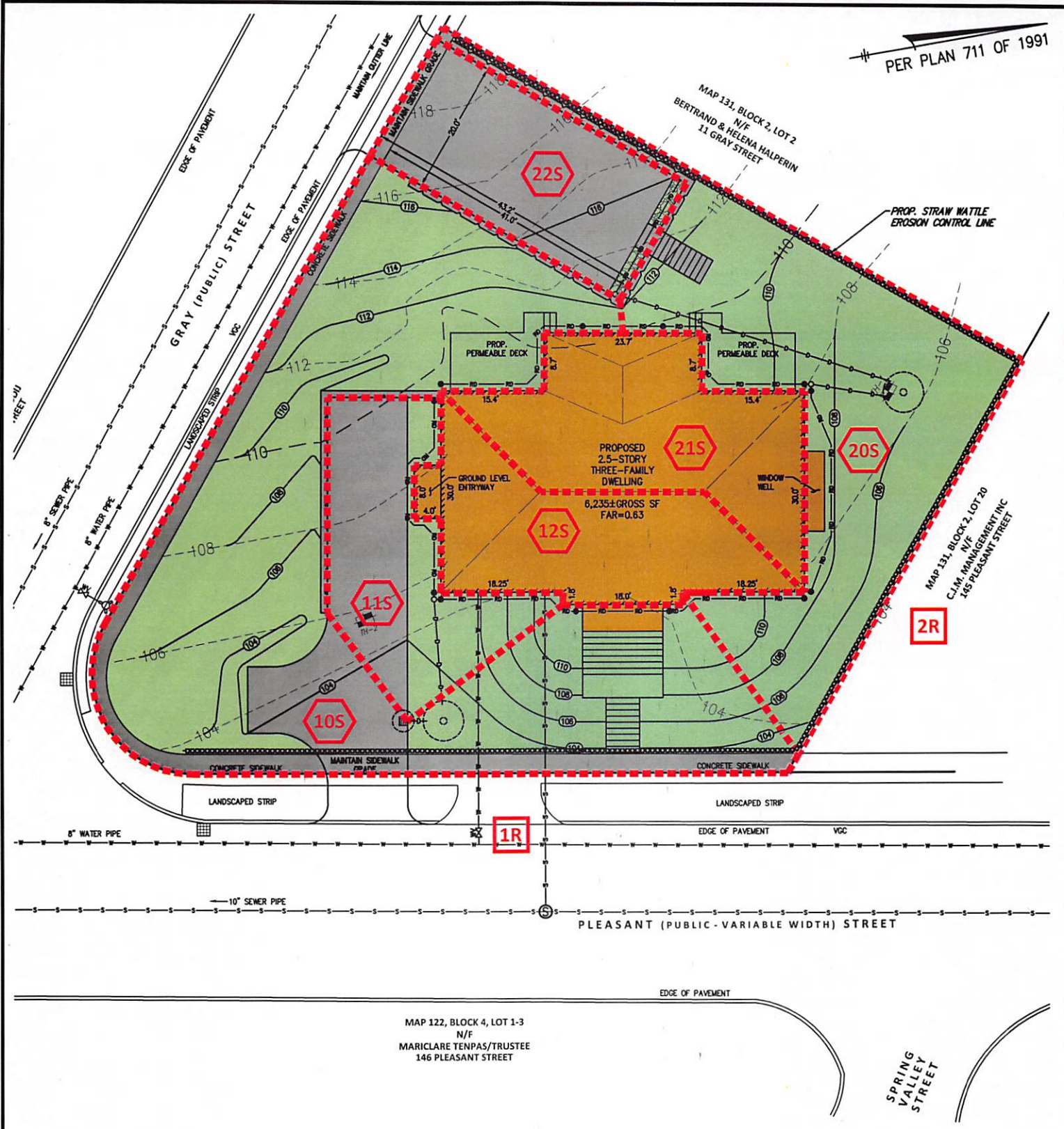
Outflow = 0.27 cfs @ 12.06 hrs, Volume= 0.017 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: NE Abutter

Inflow Area = 0.070 ac, Inflow Depth > 0.60" for 25-Year event
Inflow = 0.03 cfs @ 12.09 hrs, Volume= 0.003 af
Outflow = 0.03 cfs @ 12.09 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs



SCALE: 1"=20'



POST-DEVELOPMENT SUBCATCHMENT PLAN

149 PLEASANT STREET ARLINGTON, MASSACHUSETTS

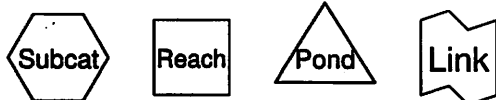
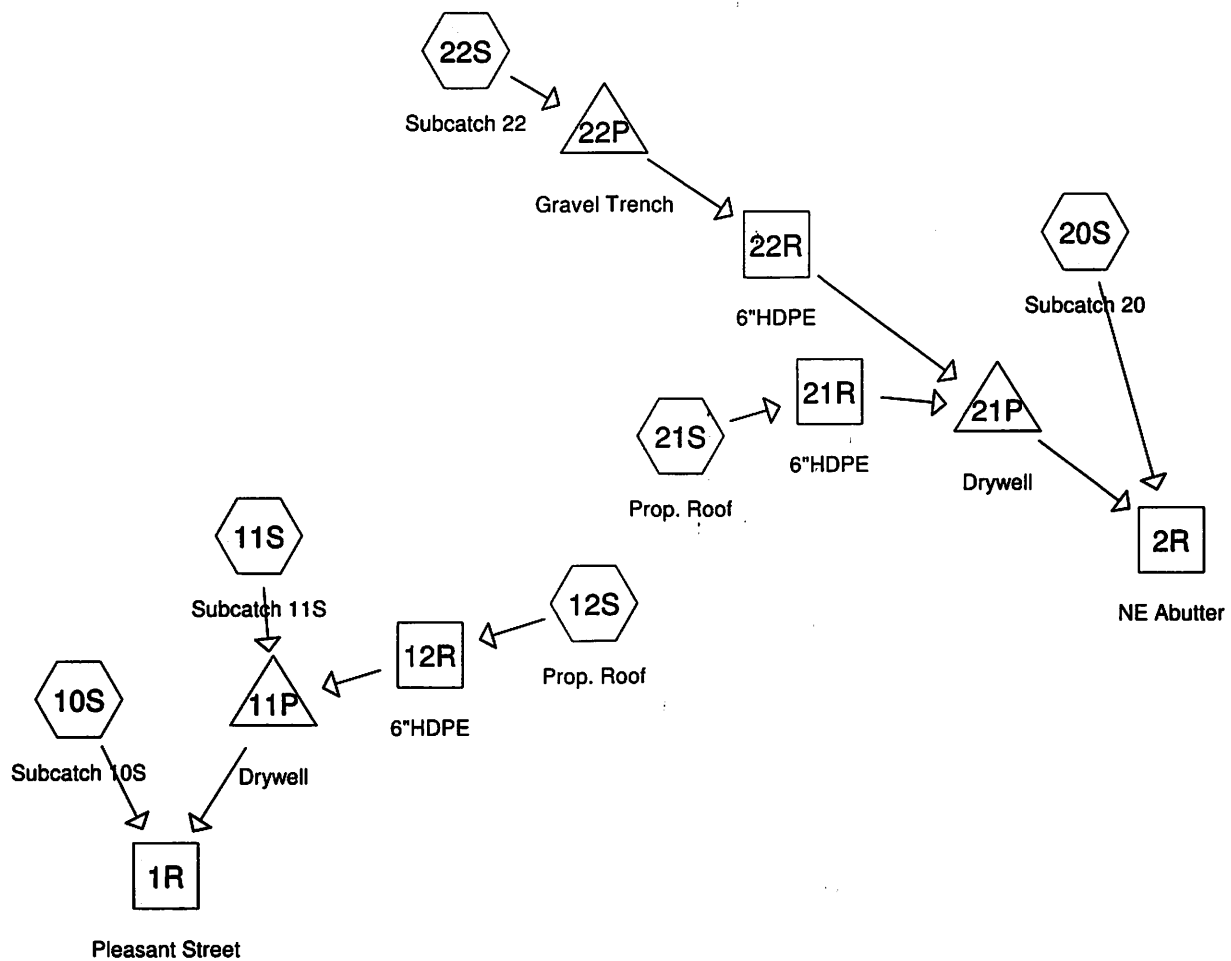
PLAN PREPARED FOR:
FTO REALTY
109 BLANCHARD ROAD
LAWRENCE, MASSACHUSETTS

JUNE 24, 2024

SCALE: 1"=20'



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Drainage Diagram for Pleasant149-Post
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Subcatchment 10S: Subcatch 10S

Runoff = 0.00 cfs @ 12.40 hrs, Volume= 0.001 af, Depth> 0.14"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
960	98	Front stoop roof, Driveway, Sidewalks, Ret.Walls
3,060	39	>75% Grass cover, Good, HSG A
4,020	53	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 11S: Subcatch 11S

Runoff = 0.02 cfs @ 12.10 hrs, Volume= 0.001 af, Depth> 0.84"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
480	98	Driveway
360	39	>75% Grass cover, Good, HSG A
840	73	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 12S: Prop. Roof

Runoff = 0.06 cfs @ 12.09 hrs, Volume= 0.005 af, Depth> 2.68"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
885	98	Roof Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 20S: Subcatch 20

Runoff = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af, Depth> 0.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
135	98	Sidewalk, Ret.Walls, Driveway Stairs, Window well roof
2,035	39	>75% Grass cover, Good, HSG A
2,170	43	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	25	0.0600	0.2		Sheet Flow, Sheet Grass Grass: Short n= 0.150 P2= 3.10"

Subcatchment 21S: Prop. Roof

Runoff = 0.07 cfs @ 12.09 hrs, Volume= 0.005 af, Depth> 2.68"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
1,020	98	Roof

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 22S: Subcatch 22

Runoff = 0.06 cfs @ 12.09 hrs, Volume= 0.004 af, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.10"

Area (sf)	CN	Description
830	98	Driveway, Conc. step
35	39	Gravel Infiltration Trench
865	96	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Reach 1R: Pleasant Street

Inflow Area = 0.132 ac, Inflow Depth > 0.10" for 2-Year event
Inflow = 0.00 cfs @ 12.40 hrs, Volume= 0.001 af
Outflow = 0.00 cfs @ 12.40 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: NE Abutter

Inflow Area = 0.093 ac, Inflow Depth > 0.00" for 2-Year event
Inflow = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 12R: 6"HDPE

Inflow Area = 0.020 ac, Inflow Depth > 2.68" for 2-Year event
Inflow = 0.06 cfs @ 12.09 hrs, Volume= 0.005 af
Outflow = 0.06 cfs @ 12.09 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Max. Velocity= 2.1 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 0.8 fps, Avg. Travel Time= 0.3 min

Peak Depth= 0.10' @ 12.09 hrs

Capacity at bank full= 0.65 cfs

Inlet Invert= 101.10', Outlet Invert= 100.90'

6.0" Diameter Pipe, n= 0.013

Length= 15.0' Slope= 0.0133 '/'

Reach 21R: 6"HDPE

Inflow Area = 0.023 ac, Inflow Depth > 2.68" for 2-Year event
Inflow = 0.07 cfs @ 12.09 hrs, Volume= 0.005 af
Outflow = 0.07 cfs @ 12.09 hrs, Volume= 0.005 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Max. Velocity= 4.2 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 1.6 fps, Avg. Travel Time= 0.1 min

Peak Depth= 0.07' @ 12.09 hrs

Capacity at bank full= 1.69 cfs

Inlet Invert= 104.50', Outlet Invert= 103.50'

6.0" Diameter Pipe, n= 0.013

Length= 11.0' Slope= 0.0909 '/'

Reach 22R: 6"HDPE

Inflow Area = 0.020 ac, Inflow Depth = 0.80" for 2-Year event
 Inflow = 0.05 cfs @ 12.09 hrs, Volume= 0.001 af
 Outflow = 0.05 cfs @ 12.10 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 4.7 fps, Min. Travel Time= 0.2 min
 Avg. Velocity = 2.9 fps, Avg. Travel Time= 0.2 min

Peak Depth= 0.05' @ 12.10 hrs
 Capacity at bank full= 2.25 cfs
 Inlet Invert= 110.40', Outlet Invert= 103.50'
 6.0" Diameter Pipe, n= 0.013
 Length= 43.0' Slope= 0.1605 '/'

Pond 11P: Drywell

Inflow Area = 0.040 ac, Inflow Depth > 1.78" for 2-Year event
 Inflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af
 Outflow = 0.01 cfs @ 11.80 hrs, Volume= 0.006 af, Atten= 88%, Lag= 0.0 min
 Discarded = 0.01 cfs @ 11.80 hrs, Volume= 0.006 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 99.52' @ 12.76 hrs Surf.Area= 50 sf Storage= 84 cf
 Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 62.4 min (820.5 - 758.1)

Volume	Invert	Avail.Storage	Storage Description
#1	97.25'	53 cf	8.00'D x 6.00'H Gravel 302 cf Overall - 170 cf Embedded = 132 cf x 40.0% Voids
#2	97.25'	170 cf	6.00'D x 6.00'H Drywell Inside #1
		222 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	103.25'	18.0" Horiz. Orifice/Grate Limited to weir flow C= 0.600

Discarded OutFlow Max=0.01 cfs @ 11.80 hrs HW=97.35' (Free Discharge)
 ↑ **1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=97.25' TW=0.00' (Dynamic Tailwater)
 ↑ **2=Orifice/Grate** (Controls 0.00 cfs)

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Type III 24-hr 2-Year Rainfall=3.10"

Page 6

Pond 21P: Drywell

Inflow Area = 0.043 ac, Inflow Depth > 1.82" for 2-Year event
 Inflow = 0.12 cfs @ 12.09 hrs, Volume= 0.007 af
 Outflow = 0.01 cfs @ 11.75 hrs, Volume= 0.007 af, Atten= 92%, Lag= 0.0 min
 Discarded = 0.01 cfs @ 11.75 hrs, Volume= 0.007 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 100.93' @ 12.63 hrs Surf.Area= 50 sf Storage= 127 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 94.8 min (831.4 - 736.6)

Volume	Invert	Avail.Storage	Storage Description
#1	97.50'	70 cf	8.00'D x 8.00'H Gravel 402 cf Overall - 226 cf Embedded = 176 cf x 40.0% Voids
#2	97.50'	226 cf	6.00'D x 8.00'H Drywell Inside #1
		297 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	105.50'	6.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.01 cfs @ 11.75 hrs HW=97.59' (Free Discharge)↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)**Primary OutFlow** Max=0.00 cfs @ 5.00 hrs HW=97.50' TW=0.00' (Dynamic Tailwater)↑**2=Orifice/Grate** (Controls 0.00 cfs)**Pond 22P: Gravel Trench**

Inflow Area = 0.020 ac, Inflow Depth > 2.50" for 2-Year event
 Inflow = 0.06 cfs @ 12.09 hrs, Volume= 0.004 af
 Outflow = 0.06 cfs @ 12.09 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.4 min
 Discarded = 0.01 cfs @ 11.80 hrs, Volume= 0.003 af
 Primary = 0.05 cfs @ 12.09 hrs, Volume= 0.001 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 110.53' @ 12.09 hrs Surf.Area= 40 sf Storage= 2 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 0.5 min (749.7 - 749.2)

Volume	Invert	Avail.Storage	Storage Description
#1	110.40'	80 cf	2.00'W x 20.00'L x 5.00'H Prismatic 200 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	110.40'	6.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.01 cfs @ 11.80 hrs HW=110.45' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.05 cfs @ 12.09 hrs HW=110.53' TW=110.45' (Dynamic Tailwater)

↑**2=Orifice/Grate** (Orifice Controls 0.05 cfs @ 1.2 fps)

Subcatchment 10S: Subcatch 10S

Runoff = 0.04 cfs @ 12.12 hrs, Volume= 0.004 af, Depth> 0.56"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
960	98	Front stoop roof, Driveway, Sidewalks, Ret.Walls
3,060	39	>75% Grass cover, Good, HSG A
4,020	53	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 11S: Subcatch 11S

Runoff = 0.04 cfs @ 12.10 hrs, Volume= 0.003 af, Depth> 1.75"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
480	98	Driveway
360	39	>75% Grass cover, Good, HSG A
840	73	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 12S: Prop. Roof

Runoff = 0.09 cfs @ 12.09 hrs, Volume= 0.007 af, Depth> 3.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
885	98	Roof Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 20S: Subcatch 20

Runoff = 0.00 cfs @ 12.36 hrs, Volume= 0.001 af, Depth> 0.18"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
135	98	Sidewalk, Ret.Walls, Driveway Stairs, Window well roof
2,035	39	>75% Grass cover, Good, HSG A
2,170	43	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	25	0.0600	0.2		Sheet Flow, Sheet Grass Grass: Short n= 0.150 P2= 3.10"

Subcatchment 21S: Prop. Roof

Runoff = 0.10 cfs @ 12.09 hrs, Volume= 0.008 af, Depth> 3.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
1,020	98	Roof

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 22S: Subcatch 22

Runoff = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Depth> 3.79"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.50"

Area (sf)	CN	Description
830	98	Driveway, Conc. step
35	39	Gravel Infiltration Trench
865	96	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Reach 1R: Pleasant Street

Inflow Area = 0.132 ac, Inflow Depth > 0.39" for 10-Year event
Inflow = 0.04 cfs @ 12.12 hrs, Volume= 0.004 af
Outflow = 0.04 cfs @ 12.12 hrs, Volume= 0.004 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: NE Abutter

Inflow Area = 0.093 ac, Inflow Depth > 0.10" for 10-Year event
Inflow = 0.00 cfs @ 12.36 hrs, Volume= 0.001 af
Outflow = 0.00 cfs @ 12.36 hrs, Volume= 0.001 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 12R: 6"HDPE

Inflow Area = 0.020 ac, Inflow Depth > 3.96" for 10-Year event
Inflow = 0.09 cfs @ 12.09 hrs, Volume= 0.007 af
Outflow = 0.09 cfs @ 12.09 hrs, Volume= 0.007 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Max. Velocity= 2.3 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 0.9 fps, Avg. Travel Time= 0.3 min

Peak Depth= 0.12' @ 12.09 hrs

Capacity at bank full= 0.65 cfs

Inlet Invert= 101.10', Outlet Invert= 100.90'

6.0" Diameter Pipe, n= 0.013

Length= 15.0' Slope= 0.0133 '/'

Reach 21R: 6"HDPE

Inflow Area = 0.023 ac, Inflow Depth > 3.96" for 10-Year event
Inflow = 0.10 cfs @ 12.09 hrs, Volume= 0.008 af
Outflow = 0.10 cfs @ 12.09 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Max. Velocity= 4.7 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 1.8 fps, Avg. Travel Time= 0.1 min

Peak Depth= 0.08' @ 12.09 hrs

Capacity at bank full= 1.69 cfs

Inlet Invert= 104.50', Outlet Invert= 103.50'

6.0" Diameter Pipe, n= 0.013

Length= 11.0' Slope= 0.0909 '/'

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Type III 24-hr 10-Year Rainfall=4.50"

Page 11

Reach 22R: 6"HDPE

Inflow Area = 0.020 ac, Inflow Depth = 1.42" for 10-Year event
 Inflow = 0.08 cfs @ 12.09 hrs, Volume= 0.002 af
 Outflow = 0.08 cfs @ 12.09 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 5.3 fps, Min. Travel Time= 0.1 min
 Avg. Velocity = 2.9 fps, Avg. Travel Time= 0.3 min

Peak Depth= 0.06' @ 12.09 hrs
 Capacity at bank full= 2.25 cfs
 Inlet Invert= 110.40', Outlet Invert= 103.50'
 6.0" Diameter Pipe, n= 0.013
 Length= 43.0' Slope= 0.1605 '/'

Pond 11P: Drywell

Inflow Area = 0.040 ac, Inflow Depth > 2.88" for 10-Year event
 Inflow = 0.13 cfs @ 12.09 hrs, Volume= 0.010 af
 Outflow = 0.01 cfs @ 11.60 hrs, Volume= 0.009 af, Atten= 93%, Lag= 0.0 min
 Discarded = 0.01 cfs @ 11.60 hrs, Volume= 0.009 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 101.86' @ 13.47 hrs Surf.Area= 50 sf Storage= 171 cf
 Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 112.1 min (868.7 - 756.5)

Volume	Invert	Avail.Storage	Storage Description
#1	97.25'	53 cf	8.00'D x 6.00'H Gravel
			302 cf Overall - 170 cf Embedded = 132 cf x 40.0% Voids
#2	97.25'	170 cf	6.00'D x 6.00'H Drywell Inside #1
		222 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	103.25'	18.0" Horiz. Orifice/Grate Limited to weir flow C= 0.600

Discarded OutFlow Max=0.01 cfs @ 11.60 hrs HW=97.32' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=97.25' TW=0.00' (Dynamic Tailwater)
 ↑2=Orifice/Grate (Controls 0.00 cfs)

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Type III 24-hr 10-Year Rainfall=4.50"

Page 12

Pond 21P: Drywell

Inflow Area = 0.043 ac, Inflow Depth > 2.80" for 10-Year event
 Inflow = 0.18 cfs @ 12.09 hrs, Volume= 0.010 af
 Outflow = 0.01 cfs @ 11.65 hrs, Volume= 0.009 af, Atten= 95%, Lag= 0.0 min
 Discarded = 0.01 cfs @ 11.65 hrs, Volume= 0.009 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 103.55' @ 12.95 hrs Surf.Area= 50 sf Storage= 224 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 128.6 min (862.3 - 733.8)

Volume	Invert	Avail.Storage	Storage Description
#1	97.50'	70 cf	8.00'D x 8.00'H Gravel 402 cf Overall - 226 cf Embedded = 176 cf x 40.0% Voids
#2	97.50'	226 cf	6.00'D x 8.00'H Drywell Inside #1
		297 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	105.50'	6.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.01 cfs @ 11.65 hrs HW=97.63' (Free Discharge)↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)**Primary OutFlow** Max=0.00 cfs @ 5.00 hrs HW=97.50' TW=0.00' (Dynamic Tailwater)↑**2=Orifice/Grate** (Controls 0.00 cfs)**Pond 22P: Gravel Trench**

Inflow Area = 0.020 ac, Inflow Depth > 3.79" for 10-Year event
 Inflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af
 Outflow = 0.08 cfs @ 12.09 hrs, Volume= 0.006 af, Atten= 0%, Lag= 0.4 min
 Discarded = 0.01 cfs @ 11.70 hrs, Volume= 0.004 af
 Primary = 0.08 cfs @ 12.09 hrs, Volume= 0.002 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 110.56' @ 12.09 hrs Surf.Area= 40 sf Storage= 3 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 0.3 min (743.3 - 743.0)

Volume	Invert	Avail.Storage	Storage Description
#1	110.40'	80 cf	2.00'W x 20.00'L x 5.00'H Prismatic 200 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	110.40'	6.0" Vert. Orifice/Grate C= 0.600

Pleasant149-Post*Type III 24-hr 10-Year Rainfall=4.50"*

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Page 13

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Discarded OutFlow Max=0.01 cfs @ 11.70 hrs HW=110.46' (Free Discharge)↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)**Primary OutFlow** Max=0.07 cfs @ 12.09 hrs HW=110.56' TW=110.46' (Dynamic Tailwater)↑**2=Orifice/Grate** (Orifice Controls 0.07 cfs @ 1.4 fps)

Subcatchment 10S: Subcatch 10S

Runoff = 0.09 cfs @ 12.11 hrs, Volume= 0.007 af, Depth> 0.94"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.40"

Area (sf)	CN	Description
960	98	Front stoop roof, Driveway, Sidewalks, Ret.Walls
3,060	39	>75% Grass cover, Good, HSG A
4,020	53	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 11S: Subcatch 11S

Runoff = 0.06 cfs @ 12.09 hrs, Volume= 0.004 af, Depth> 2.41"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.40"

Area (sf)	CN	Description
480	98	Driveway
360	39	>75% Grass cover, Good, HSG A
840	73	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 12S: Prop. Roof

Runoff = 0.10 cfs @ 12.09 hrs, Volume= 0.008 af, Depth> 4.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.40"

Area (sf)	CN	Description
885	98	Roof Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

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Type III 24-hr 25-Year Rainfall=5.40"

Page 15

Subcatchment 20S: Subcatch 20

Runoff = 0.01 cfs @ 12.25 hrs, Volume= 0.002 af, Depth> 0.40"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 25-Year Rainfall=5.40"

Area (sf)	CN	Description
135	98	Sidewalk, Ret.Walls, Driveway Stairs, Window well roof
2,035	39	>75% Grass cover, Good, HSG A
2,170	43	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.1	25	0.0600	0.2		Sheet Flow, Sheet Grass Grass: Short n= 0.150 P2= 3.10"

Subcatchment 21S: Prop. Roof

Runoff = 0.12 cfs @ 12.09 hrs, Volume= 0.009 af, Depth> 4.78"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 25-Year Rainfall=5.40"

Area (sf)	CN	Description
1,020	98	Roof

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment 22S: Subcatch 22

Runoff = 0.10 cfs @ 12.09 hrs, Volume= 0.008 af, Depth> 4.62"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Type III 24-hr 25-Year Rainfall=5.40"

Area (sf)	CN	Description
830	98	Driveway, Conc. step
35	39	Gravel Infiltration Trench
865	96	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Reach 1R: Pleasant Street

Inflow Area = 0.132 ac, Inflow Depth > 0.69" for 25-Year event
Inflow = 0.09 cfs @ 12.11 hrs, Volume= 0.008 af
Outflow = 0.09 cfs @ 12.11 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: NE Abutter

Inflow Area = 0.093 ac, Inflow Depth > 0.21" for 25-Year event
Inflow = 0.01 cfs @ 12.25 hrs, Volume= 0.002 af
Outflow = 0.01 cfs @ 12.25 hrs, Volume= 0.002 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 12R: 6"HDPE

Inflow Area = 0.020 ac, Inflow Depth > 4.78" for 25-Year event
Inflow = 0.10 cfs @ 12.09 hrs, Volume= 0.008 af
Outflow = 0.11 cfs @ 12.09 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Max. Velocity= 2.4 fps, Min. Travel Time= 0.1 min

Avg. Velocity = 0.9 fps, Avg. Travel Time= 0.3 min

Peak Depth= 0.14' @ 12.09 hrs

Capacity at bank full= 0.65 cfs

Inlet Invert= 101.10', Outlet Invert= 100.90'

6.0" Diameter Pipe, n= 0.013

Length= 15.0' Slope= 0.0133 '/'

Reach 21R: 6"HDPE

Inflow Area = 0.023 ac, Inflow Depth > 4.78" for 25-Year event
Inflow = 0.12 cfs @ 12.09 hrs, Volume= 0.009 af
Outflow = 0.12 cfs @ 12.09 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Max. Velocity= 5.0 fps, Min. Travel Time= 0.0 min

Avg. Velocity = 1.9 fps, Avg. Travel Time= 0.1 min

Peak Depth= 0.09' @ 12.09 hrs

Capacity at bank full= 1.69 cfs

Inlet Invert= 104.50', Outlet Invert= 103.50'

6.0" Diameter Pipe, n= 0.013

Length= 11.0' Slope= 0.0909 '/'

Reach 22R: 6"HDPE

Inflow Area = 0.020 ac, Inflow Depth = 1.87" for 25-Year event
 Inflow = 0.09 cfs @ 12.09 hrs, Volume= 0.003 af
 Outflow = 0.09 cfs @ 12.09 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.1 min

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Max. Velocity= 5.7 fps, Min. Travel Time= 0.1 min
 Avg. Velocity = 2.9 fps, Avg. Travel Time= 0.3 min

Peak Depth= 0.07' @ 12.09 hrs
 Capacity at bank full= 2.25 cfs
 Inlet Invert= 110.40', Outlet Invert= 103.50'
 6.0" Diameter Pipe, n= 0.013
 Length= 43.0' Slope= 0.1605 '/

Pond 11P: Drywell

Inflow Area = 0.040 ac, Inflow Depth > 3.63" for 25-Year event
 Inflow = 0.16 cfs @ 12.09 hrs, Volume= 0.012 af
 Outflow = 0.02 cfs @ 12.76 hrs, Volume= 0.009 af, Atten= 87%, Lag= 40.2 min
 Discarded = 0.01 cfs @ 11.40 hrs, Volume= 0.009 af
 Primary = 0.01 cfs @ 12.76 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 103.26' @ 12.75 hrs Surf.Area= 50 sf Storage= 222 cf
 Plug-Flow detention time= (not calculated: outflow precedes inflow)
 Center-of-Mass det. time= 96.4 min (851.8 - 755.5)

Volume	Invert	Avail.Storage	Storage Description
#1	97.25'	53 cf	8.00'D x 6.00'H Gravel 302 cf Overall - 170 cf Embedded = 132 cf x 40.0% Voids
#2	97.25'	170 cf	6.00'D x 6.00'H Drywell Inside #1
		222 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	103.25'	18.0" Horiz. Orifice/Grate Limited to weir flow C= 0.600

Discarded OutFlow Max=0.01 cfs @ 11.40 hrs HW=97.33' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.01 cfs @ 12.76 hrs HW=103.26' TW=0.00' (Dynamic Tailwater)
 ↑2=Orifice/Grate (Weir Controls 0.01 cfs @ 0.3 fps)

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Type III 24-hr 25-Year Rainfall=5.40"

Page 18

Pond 21P: Drywell

Inflow Area = 0.043 ac, Inflow Depth > 3.45" for 25-Year event
 Inflow = 0.21 cfs @ 12.09 hrs, Volume= 0.012 af
 Outflow = 0.01 cfs @ 11.45 hrs, Volume= 0.009 af, Atten= 96%, Lag= 0.0 min
 Discarded = 0.01 cfs @ 11.45 hrs, Volume= 0.009 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 105.42' @ 13.14 hrs Surf.Area= 50 sf Storage= 293 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)

Center-of-Mass det. time= 116.2 min (849.0 - 732.8)

Volume	Invert	Avail.Storage	Storage Description
#1	97.50'	70 cf	8.00'D x 8.00'H Gravel 402 cf Overall - 226 cf Embedded = 176 cf x 40.0% Voids
#2	97.50'	226 cf	6.00'D x 8.00'H Drywell Inside #1
		297 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	105.50'	6.0" Vert. Orifice/Grate C= 0.600

Discarded OutFlow Max=0.01 cfs @ 11.45 hrs HW=97.60' (Free Discharge)↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)**Primary OutFlow** Max=0.00 cfs @ 5.00 hrs HW=97.50' TW=0.00' (Dynamic Tailwater)↑**2=Orifice/Grate** (Controls 0.00 cfs)**Pond 22P: Gravel Trench**

Inflow Area = 0.020 ac, Inflow Depth > 4.62" for 25-Year event
 Inflow = 0.10 cfs @ 12.09 hrs, Volume= 0.008 af
 Outflow = 0.10 cfs @ 12.09 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.3 min
 Discarded = 0.01 cfs @ 11.65 hrs, Volume= 0.005 af
 Primary = 0.09 cfs @ 12.09 hrs, Volume= 0.003 af

Routing by Dyn-Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Peak Elev= 110.58' @ 12.09 hrs Surf.Area= 40 sf Storage= 3 cf

Plug-Flow detention time= 0.4 min calculated for 0.008 af (100% of inflow)

Center-of-Mass det. time= 0.4 min (741.0 - 740.6)

Volume	Invert	Avail.Storage	Storage Description
#1	110.40'	80 cf	2.00'W x 20.00'L x 5.00'H Prismatic 200 cf Overall x 40.0% Voids

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	8.270 in/hr Exfiltration over Surface area
#2	Primary	110.40'	6.0" Vert. Orifice/Grate C= 0.600

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Type III 24-hr 25-Year Rainfall=5.40"

Page 19

Discarded OutFlow Max=0.01 cfs @ 11.65 hrs HW=110.45' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.09 cfs @ 12.09 hrs HW=110.58' TW=110.47' (Dynamic Tailwater)

↑**2=Orifice/Grate** (Orifice Controls 0.09 cfs @ 1.4 fps)

SECTION 4: CONSTRUCTION-PERIOD, OPERATION & MAINTENANCE, AND LONG-TERM POLLUTION PREVENTION PLAN

SECTION 4.1 - INTRODUCTION

The following Operation and Maintenance plan provides the requirements for the proposed storm water management system throughout the construction phase and the post development period of the system. The maintenance standards presented are based on recommended design and maintenance standards in *Managing Stormwater in Massachusetts, Volume One: Stormwater Handbook, Prepared by: MA Department of Environmental Protection*

These operations and maintenance procedures are required for proper operation of the stormwater management system; additional procedures may also be developed as the system is operated over a period of time. As with all stormwater facilities, the conditions may change or the management may be simplified as the maintenance personnel become more familiar with them. For example, as detention facilities mature, the ability for the basins to remove pollutants, and the efficiency increases, and therefore, the frequency of inspection may need to be adjusted.

Proper maintenance is essential to ensure that the performance of the system meets the design expectation. A system that is not maintained will inevitably fail and could lead to financial loss, damage to surrounding infrastructure or environmentally sensitive areas, and an increase in the liability of the property owner. The three keys to maintaining a functional storm water management system are *personnel, education, and record keeping*.

Personnel make the difference between a Stormwater Management System that performs as designed throughout its lifetime or one that fails due to lack of attention. *Education* provides the personnel with the skills needed to effectively maintain a Stormwater Management System. *Record Keeping* allows the personnel to track the maintenance and the performance of the system to determine when major maintenance tasks are required.

Maintenance is the responsibility of the property owner. This is true whether the property owner is an individual where the land is private property or where the land is public with the responsibility assigned to that municipality. Maintenance shall be performed as outlined in this Operational and Maintenance Plan. Those responsible for the work shall have a copy of this plan and a copy of the complete design plans to aid them in understanding the intent and requirements unique to this Stormwater Management Facility.

All maintenance personnel shall be aware of the purpose of each stormwater management BMP in removing contaminants and Total Suspended Solids (TSS) from the stormwater runoff. The result is the collection, removal and storage of the contaminants within the components. The contaminants could include trash, debris, oil, sediment and soluble or insoluble materials. In most situations, these can be handled, stored and disposed with minimal safety requirements, in that the health hazards are minimal with the concentrations involved. However, the personnel should be aware of the risk and/or the possibility of potential dangers.

The maintenance personnel shall be aware of the safety needs involved with entry into confined areas such as sediment and oil separators and shall abide by all applicable OSHA regulations. Personnel should be familiar with local emergency numbers and have access to first aid materials. Maintenance personnel shall be familiar with local, state and federal regulations and guidelines concerning the disposal of all materials generated from the facilities as a result of maintenance. All waste materials shall be handled, stored, transported and disposed in accordance with those regulations.

SECTION 4.2 – RESPONSIBLE PARTIES

The construction contractor as well as the owner will be the responsible parties during construction of the Stormwater Management System.

The owner of the property will be the responsible party during the post-development maintenance period of the Stormwater Management System.

SECTION 4.3 CONSTRUCTION PERIOD MAINTENANCE PROCEDURES

Maintenance requirements are the most demanding during the construction phase of a project when the ground is disturbed with partial runoff control in a condition that is most likely to produce silt-laden runoff. During this period, the contractor and owner shall meet the design and performance standards of a fully constructed, stabilized system. Proper treatment of stormwater is only possible with a proper construction sequence plan and rigorous maintenance procedures of the storm water components.

The general construction sequence, as it applies to the storm water management components shall be as follows:

1. Install erosion and sediment controls measures (straw wattle as shown on plan prior to disturbing soil and any temporary structures.
2. Conduct all soil-disturbing operations during the dry periods and not during times of precipitation.
3. Direct the storm water runoff into temporary pollution prevention structures.
4. Begin site work.
5. Stabilize grading and landscaped areas as soon as possible.

The following structures shall be in place during the construction phase and shall be maintained as outlined below.

Erosion Control Measures

Responsible Party: Site Contractor

- Straw wattle shall be placed and maintained as shown on the plan set.
- Straw wattle shall be inspected weekly during construction and after each rainstorm.
- Straw wattle shall be replaced if they become silt laden and no longer meet performance standards
- All sediments should be handled properly and disposed in accordance with local, state and federal guidelines and regulations.

Deep Sump Catch Basin

Responsible Party: Site Contractor

- Filter fabric, silt sacks, or the like shall be placed on top of the catch basin frame but beneath the grate (or erosion control lines such as silt socks shall entirely surround the catch basin frame and grate) for the duration of the construction process and shall be cleaned as needed, and removed at the conclusion of the construction period.
- Any construction period debris shall be removed from the Sump at the conclusion of construction

Gravel Treatment & Infiltration Trench

Responsible Party: Site Contractor

- Prevent heavy equipment from entering locations where the trench is proposed by roping or flagging
- Construct the trench only after the site has been stabilized. Diversion berms should be used during construction to prevent contaminants from entering the trench
- During and after excavation, all excavated materials should be placed downstream of the trench or immediately trucked offsite

Dry Wells

Responsible Party: Site Contractor

- Prevent heavy equipment from entering locations where the dry well is proposed by roping or flagging
- Construct the dry well only after the site has been stabilized. Diversion berms should be used during construction to prevent contaminants from entering the dry well
- During and after excavation, all excavated materials should be placed downstream of the dry well or immediately trucked offsite

SECTION 4.4 POST-DEVELOPMENT MAINTENANCE PROCEDURES

Erosion Control Measures

Responsible Party: Property Owner

- Straw wattle shall be removed following construction; contact the Conservation Commission to inspect stabilized area to conform to compliance requirements.

Deep Sump Catch Basin

Responsible Party: Property Owner

- Inspect the Deep Sump Catch Basin four times per year at minimum, or after significant storm events
- Clean the Deep Sump Catch Basin four times per year or whenever the depth of deposits is greater than or equal to one half the depth from the bottom of the invert of the lowest pipe in the Basin

Gravel Treatment & Infiltration Trench

Responsible Party: Property Owner

- Because trenches can be prone to failure due to clogging, they must be regularly maintained
- Inspect and clean areas upgradient of the trench regularly, including removing trash, debris, leaves, and grass clippings. Routinely remove any such items from the surface of the trench
- Inspect the trench after the first several rainfall events, after all major storms, and on regularly scheduled dates every six months
- Inspect the trench 24 hours or several days after a rain event, to look for ponding or improperly draining water

Dry Wells

Responsible Party: Property Owner

- Inspect the dry well after every major storm in the first few months after construction to ensure proper stabilization and function. Thereafter, inspect annually
- Once a year, measure the water depth in the observation well at 24-hour and 48-hour intervals after a storm. Calculate clearance rates by dividing the drop in water level by the time elapsed

Inspections of hoods, elbows, baffles, etc. at the catch basins shall be conducted twice a year. Inspection and maintenance of lawns and landscaping (including trash/debris removal, etc.), and paved surfaces and sweeping shall be conducted twice a year.

37" Fill

0-22" A_b FSL 10yr 2/2

37-58 Bw SL 10yr 5/6

58-84" C M-C Sand
2.5y 5/3

No obs / NO redox
few stones

A_b

0-57" FSL 10yr 2/2 FSL

57-85" Bw 10yr 5/6 SL

85-88" C M-C Sand
2.5y 5/3

No obs / NO ESTW
Few stones



Town of Arlington, Massachusetts

Correspondence

Summary:

- B. Halperin - 8/1/2024

ATTACHMENTS:

	Type	File Name	Description
▢	Reference Material	Correspondence_Halperin_08012024.pdf	Correspondence Halperin 08012024

From: Bertrand Halperin
Sent: Thursday, August 1, 2024 2:12 PM
To: Claire Ricker
Cc: Sarah Suarez; Helena Halperin
Subject: 149 Pleasant Street

Dear Ms. Ricker:

We thank you and your staff for taking the time to meet with us Wednesday afternoon.

As you know, we live at 11 Gray Street, and our property abuts the property at 149 Pleasant Street. We have several concerns about the proposed construction on the latter site.

A major matter of concern is the proposed driveway at the upper side of the lot. As we understand it, the driveway would be very close to the property line, much closer than would normally be allowed by zoning regulations. Is this exception really necessary and appropriate? Could there be a different plan for the property that would not require such an exception?

If the zoning board decides to grant permission for the proposed driveway location, we will have some specific concerns. We understand that there will be a retaining wall on the up-hill side of the driveway, very close to our property line. What will be the material of that wall? Will there be a fence on top of the wall? What will the wall look like from the up-hill side? How much space will there be between the wall and the property line? Will there be a provision for drainage of rainwater that might accumulate on the up-hill side of the wall? We fear that the excavation will damage the roots of our bushes near the property line and that for the stability of the retaining wall, the area behind the wall will need to be filled with rocks or other material to stabilize the wall and prevent roots from regrowing.

More generally, what steps will be taken during construction to prevent injury to plants on our property that are close to the property line? How much damage should we expect to the roots of the bushes planted near the line on our side? What of the large tree on our property that hangs over part of the area of the driveway and extends into the backyard of 149 Pleasant Street. We assume that the major limb off the trunk and the first branch above that limb may need to be cut.

We would also like to have a more detailed understanding of the landscaping plans for the lot.

We plan to attend the hearing on Monday, August 5, where these issues may be discussed.

Sincerely yours,
Bertrand and Helena Halperin